Germany's
COMBAT HELMETS
1933-1945

A Modern Study

by Ken Niewiarowicz

Germany's COMBAT HELMETS 1933-1945: A Modern Study

Germany's COMBAT HELMETS 1933-1945

A Modern Study

by Ken Niewiarowicz

1st Printing 2009

Copyright 2009 Ken Niewiarowicz

Published by R. James Bender Publishing,
P.O. Box 23456, San Jose, CA 95153 USA
Ph: (408) 225-5777, Fax: (408) 225-0407
Web: www.bender-publishing.com
E-mail: order@bender-publishing.com

Printed in China

All rights reserved. This book or parts thereof, may not be reproduced in any form without the permission of the author.

ISBN No.: 1-932970-12-6

This book is dedicated to members of "the greatest generation" who gave their all in the struggle against Nazi Germany 1941-1945. Particularly the following:

My Father; Leonard Niewiarowicz who entered the battle of Normandy and fought through to the Elbe; one of 28 survivors of the original 250 men of G Company, 137th Infantry Regiment, 35th Infantry Division, US Army

My Uncle; Edward Niewiarowicz who helped to liberate Dachau with the 45th Infantry Division, US Army

My Uncle; William Randles; grievously wounded by machine gun fire while serving with the British 1st Army group, northwest Europe 1945.

And my mother:
Mayme Randles who'd dreamed
of joining the fight.

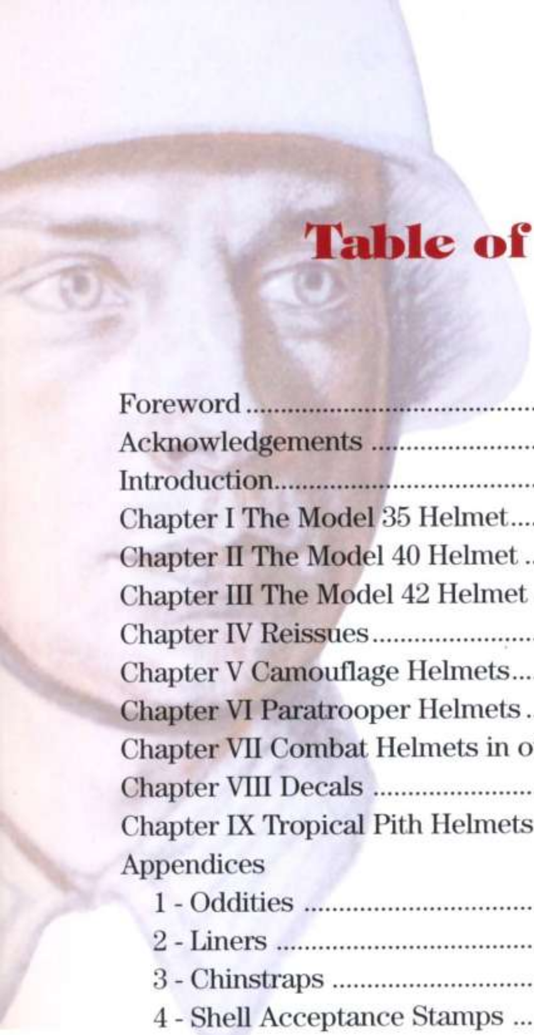


Table of Contents

Foreword 4
Acknowledgements 5
Introduction........ 6
Chapter I The Model 35 Helmet........ 8
Chapter II The Model 40 Helmet 71
Chapter III The Model 42 Helmet 114
Chapter IV Reissues........ 144
Chapter V Camouflage Helmets........ 218
Chapter VI Paratrooper Helmets 264
Chapter VII Combat Helmets in other roles 310
Chapter VIII Decals 327
Chapter IX Tropical Pith Helmets 363

Appendices

1 - Oddities 408
2 - Liners 414
3 - Chinstraps 429
4 - Shell Acceptance Stamps 438
5 - Lot Numbers 445
6 - Shell Characteristics 449
7 - The Factories 453
8 - A Short History of Collecting German Helmets 455
Bibliography 466

Foreword

Throughout the 1970s and on occasion in the 1980s while home on leave from the military, I would patrol the wide and bountiful aisles of the Ohio Gun Collectors' Association show, which was one of the greatest gun shows of the old era. It was a superb source for military items as well as weapons, because so many gun collectors at that time were erstwhile militaria buffs. Most were also WWII veterans, and they sometimes brought their own "souvenirs" to sell. It was common to purchase quality original German helmets there, and the favorite thing to do was get there as early as possible and zoom up and down the aisles hoping to find a jewel for the collection. I recall from that era a few faces of the competition—other young collectors who pursued the same prizes; one of them being Ken Niewiarowicz.

The reason I tell this story is to provide the reader some indication of how long Ken has been a student of German helmets. Not only the length of time, but the originality of the specimens he was obtaining, are important factors here. Ken learned originality, learned what he liked, and stuck with it, building upon his knowledge over the years. The fruits of his efforts include a world-class website featuring fine original helmets and now, a superbly researched and authoritative work on German helmets—arguably the new standard for all authors on the subject.

Delving into the chapters, one can see evidence of exhaustive effort in seeking out original helmets from some of the best US and international collections, the finest examples of which are presented here accompanied by a text composed of facts and observations layed out in a direct and cohesive manner. Myself having trod this path, I can attest to the patience which it requires. But Ken has gotten the job done and the quality and value of this effort are evident.

In terms of enhancing the modern study of original German WWII helmets, Ken's methodical approach in analyzing finishes, lot numbers, and corresponding decals of so many fine examples constitutes an important building block of updated forensic study that will benefit all collectors into the future. Therefore, it is my view that this book is the most definitive and complete work available on Third Reich helmets, and will quickly become the cornerstone of helmet collecting literature.

Kelly Hicks
LTC, US Army (Ret.)

Acknowledgements

No project of this scope could have been contemplated without the assistance and contributions of advanced and dedicated fellow-collectors.

A great deal of encouragement was given by many long time friends and associates. Many superb specimens of original helmets were provided for illustration here from some of the most advanced collections world-wide.

For their help in various ways, I owe my gratitude to the following.

Ludwig Baer
Richard Bertschi
Doug Buhler
David Camarata
Richard Church
Dr. Ron Distelhorst, MD
Greg Eigenfeld
Cody Grayland
Terry Goodapple
Christian Guillon
Russ Hamilton
Robert Hassler
Kelly Hicks
Shuichi Kamasada
Thomas Kibler
Karl Kithier
Anders Lehrman
Graeme McIntyre
Anton Merkeshev
Jack Miller
Tony Nacovski
Paul Oostmeyer
Darryl Pajot
George A. Petersen
Mario Ramaioli
Ron Richter
Bill Shea
Barry Smith
Dr. Ron Sollitto, MD
Giorgio Spadaro
Otto Spronk
Joe Stone
Peter Suciu
John Suprin
Daniele Tirelli
Don Troiani
Christian Wahlund
Curtis Wilford

Introduction

Over the past three decades the subject of German combat helmets has been written about in a number of reference works. The first work by Floyd Tubbs in the early 70s was a groundbreaking effort; supplying early collectors with information which had not before been available. The two volumes of *"German Helmets; 1933-1945"* by Goodapple et al, published in 1981-1983, were excellent photo references and provided the best known understanding of shell types, configurations and time-lines of production.

Just a few years later; Ludwig Baer's comprehensive *"History of the German Steel Helmet 1916-1945"* gave perhaps the best possible insight on technical data, dates of orders and production changes based on original documentation; it remains a text which probably can never be expanded upon.

The works of Kelly Hicks culminating in the 2004 book *"SS-Steel"* and the 2006 book *"SS Helmets"* with the late Mike Beaver, provide the best understanding of steel helmets utilized by that elite branch of Hitler's armed forces. Mr. Hicks writes from experience of the handling and study of original specimens; arriving at practical conclusions based on observations of correlative features.

In writing this book I have used a similar approach, for I feel that therein lays the most productive source of practical information. The number of original examples existing today can probably be assumed to be a fair cross-section of helmets produced and used during the twelve years of the Third Reich. The examination of and comparison to other known original helmets produces the clearest understanding of the subject, most particularly the aspects of shell production, components as well as finishes and applied insignias.

When certain characteristics such as painted finish are common to all examples of a certain make/model of helmet which was produced in a certain time frame, or when a specific style of decal is found applied to helmets similarly alike, it becomes a logical assumption that this correlation is a result of design rather than chance.

The main purpose of this book is the examination, description and illustration of such correlations; how these correlations are observed by cross reference of model, manufacturer and branch of service as well as chronology of production.

Hitler's war machine was bombed to ruins sixty years ago. This has left a hole in many of the specifics related to helmets produced between 1933 and 1945. Specific archival production records were eradicated either by wartime destruction or post-war neglect. Persons who possessed first-hand knowledge regarding the production and assembly of Third Reich era steel helmets or components are either dead or untraceable. Therefore, no supportive testimony or documentation is able to draw on in the following pages. For this reason, some conjecture must play an occasional role in the conclusions which the reader will find here. Points of consideration have been made, and theories have been put forth to hypothesize in these cases.

Exceptions to the proven rule often arise in the pursuit of definitive conclusion. The subject of this study is not without such exceptions. Moreover, the expectation of exception is logical considering the element of wartime expediency, the occasion of necessary modifications within reasonably short time intervals and the exactness to which contemporary standards were upheld. Added to this are the normal variations expected as a result of industrial production in separate privately owned factories each dealing with individual contractors of components and materials. Taking the aforementioned factors into account, it may be surprising that enough similarities and correlative features exist to arrive at the conclusions found here. However, I believe that the presentation of these conclusions in an objective manner will suffice to give some aid to those seeking a better understanding of the subject and when the conclusions are found to arise from explained conjecture, the reader is left to decide for himself the validity of what, in the end, can only be considered as the opinion of the author.

I have more often attempted to answer the "what" and not the "why." I point to the differences in certain manufacturing methods but in most cases steer clear of an attempt to explain why they are so. I illustrate the common features of an insignia applied to a certain type or manufacture of helmet but often leave open the reason behind it. Not being a specialist in industrial manufacture or procurement, such conjecture is beyond me and would serve no useful purpose here. Notwithstanding, I feel that what follows has come furthest, so far, to being a definitive study on the subject of the Third Reich steel helmet. I say this in the expectation and hope that future study and possible discovery by either myself or others may add yet more to the completeness of what is known of this fascinating subject.

Ken Niewiarowicz
Lapeer, Michigan, August 2009

Chapter I

The Model 1935 Helmet

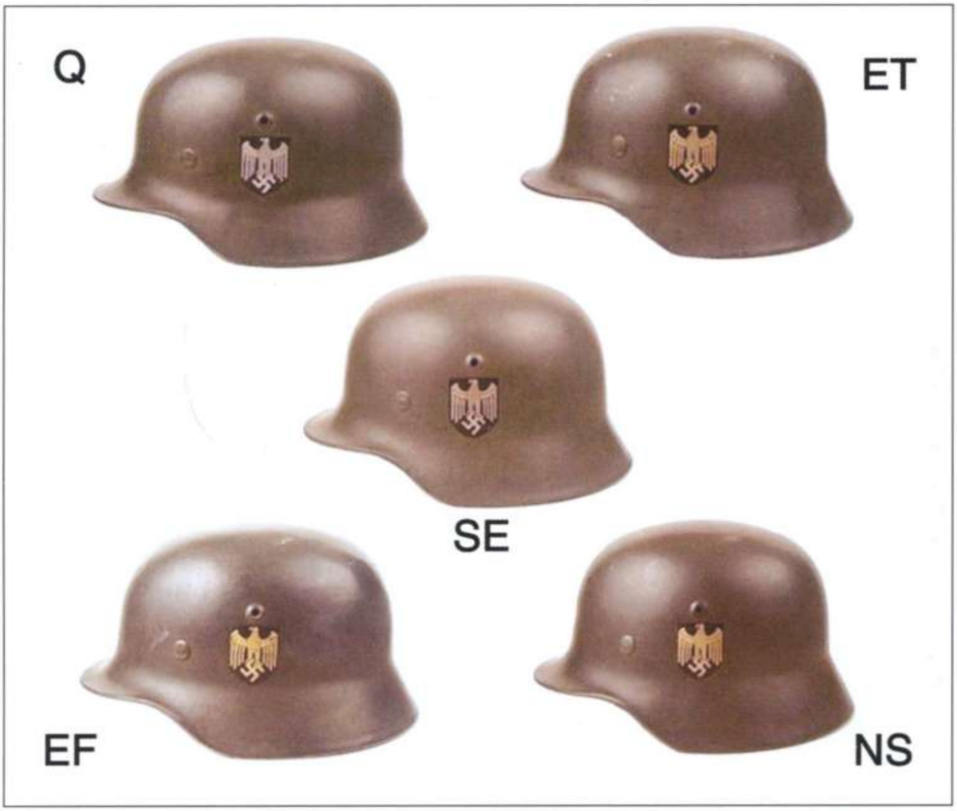
Modernization of the German Army began in earnest shortly after Hitler's rise to power in 1933. One by one, the terms of the hated Treaty of Versailles were cast off, opening the door to rapid expansion of the armed forces and the development of new equipment. Among these developments was the creation of a new helmet to replace the World War I vintage models used by soldiers of the *Reichswehr*. Until 1935, the most modern steel helmet possessed by Germany's armed forces was the Model 1918 which had been retro-fitted with the recently designed Model 31 leather liner assembly. Experimentation and field trials of a new helmet design commenced through early 1935 and the model designated M35 was accepted in June. The first contracts were awarded to the Eisenhutten plant in Thale, which had been the leading producer of steel helmets during 1916-1918. According to Ludwig Baer in his excellent work *"The History of the German Steel Helmet 1916-1945,"* although production began in the fall of 1935, no appreciable numbers of the new helmet were delivered to the armed forces until early 1936. The Sachsische Emallier-und Stanzwerke AG in Lauter became the second factory to join in M35 production. By the end of 1936 there were two other factories producing the new helmet; F.W. Quist in Esslingen a.n. and Vereinigte Deutsche Nickelwerke in Schwerte. By the end of 1937, a fifth factory had also begun production; Emaillierwerke A.G. in Fulda.

Over the next eight years these five factories continued to produce steel helmets, and during this time changes in specification and differences in each factory's production, as well as sub-contracted components, came together to cause a substantial variety in the appearances of the completed products.

The first and most noticeable difference between the helmets produced by the five factories is the color of the painted finish. In describing the colors used on Model 35 helmets, finding the correct terminology can be somewhat problematic (at least when concerning helmets of the *Heer/Waffen SS/ Kriegsmarine*). Collectors have long held to the usage of terms that have been coined by the collecting community. "Pea-green," "apple-green," dark and light versions of

Otto Spronk Photo Collection

"grey-green," are all terms that may mean different things to different people. The German authorities set down only the specification "*Feldgrau*" or "field-grey." There is no known documentation which gives exact paint codes, however, examination of surviving examples does show a distinct difference in the shades of *feldgrau* that were applied by the various makers at various times. When examples are found that have not had their appearance significantly altered by patina and the effects of time, a direct correlation can often be observed in color shade vs. manufacture and period of production. For instance, helmets that were produced in the first two years often have painted finishes that are light in shade as compared with later examples. During 1936 and into 1937, helmets made by Q and NS can be found to be unusually light in color while specimens dated 1937 and later are consistently finished in darker shades. By 1937, there seems to have been a general consensus on the colors used by the different factories. (See photo below.)



The difference in paint colors by maker is clearly illustrated in the above photo. Each of these helmets is dated between 1937 and 1939. During these two years, these colors remained fairly consistent with minor variation. Generally speaking, the SE manufacturer tended to use a lighter finish. Q-manufactured helmets had a more flat appearance when they left the factory. EF and NS tended to use darker tones of *feldgrau*.

The SE manufacturer tended to use the lightest shades of *feldgrau*. The Q and NS makers used colors that appear darker and more lusterless in quality. EF-manufactured helmets are generally found with the darkest finishes. Helmets produced by ET between 1935 and 1940 have the most variety of colors ranging from light to dark.

Another way of distinguishing between helmets of the different makers is the actual shapes and dimensions of the helmet shells themselves. For example, EF-manufactured shells have a wider flare at the point where the visor meets the sides. NS-manufactured shells tend to appear taller than those of other makers. A practiced eye can often distinguish between the different shell manufactures by simple observance of the different characteristics.

The appearance of the pressed air-vent bushing differed among the five manufacturers (see appendix 6). Some are more dome-shaped than others and there are differences in the diameters of the bushings as well as the size of the holes.

The weight of the helmet shell also differs among the manufacturers. According to Baer, there exists a variation of some 90 grams in shells of the smallest sizes. This variation grows to 170 grams for helmets of the largest sizes. This difference in shell weights can be caused by differences in either the thickness of the gauge of steel sheet or by the material composition of the steel sheet. In observing examples today, it can be noted that the widest variation appears to be with helmets manufactured by the Q maker.

Liner systems were supplied by various makers and there does not appear to be any correlation between liner producers and helmet shell producers. The product of each liner manufacturer is found in steel helmets regardless of the shell maker.

In the case of chinstraps, there is evidence of at least limited correlation (see Appendix 3) between branch of service and chinstrap manufacture but not between chinstrap manufacturer and helmet maker.

In spite of the above described differences, the M35 helmet can be seen as a whole, to represent the highest quality in production standards that is not matched in helmets produced in later years. Model 35 helmets are often sought after as the most attractive to collectors due to quality of early components as well as the adornment of decals and painted finishes.

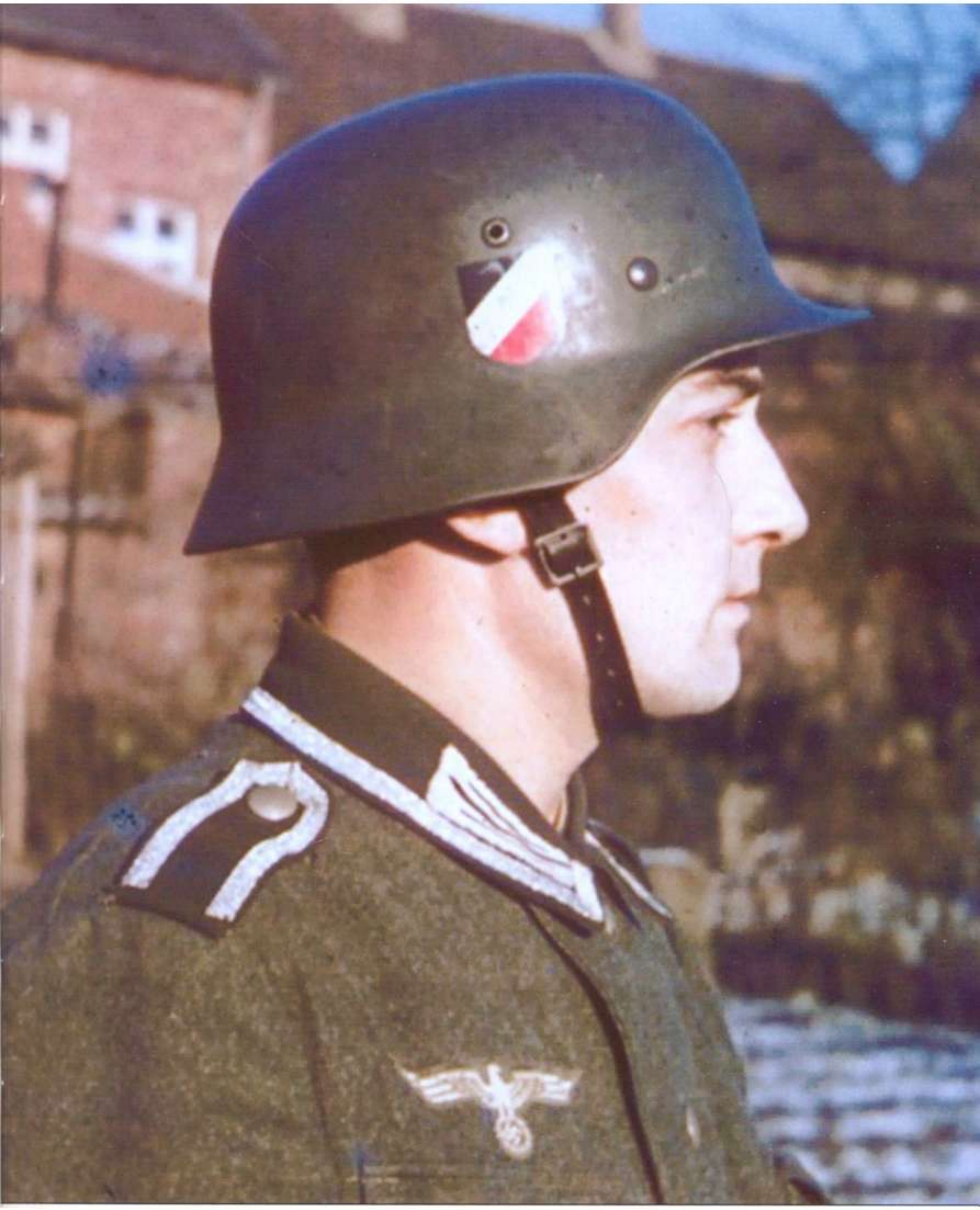
Manufacturer's Codes

Q - F.W. Quist
ET - Eisenhutten-Thale
SE - Sachsische Emailler
EF - Emaillerwerke-Fulda
NS - Nickelwerke

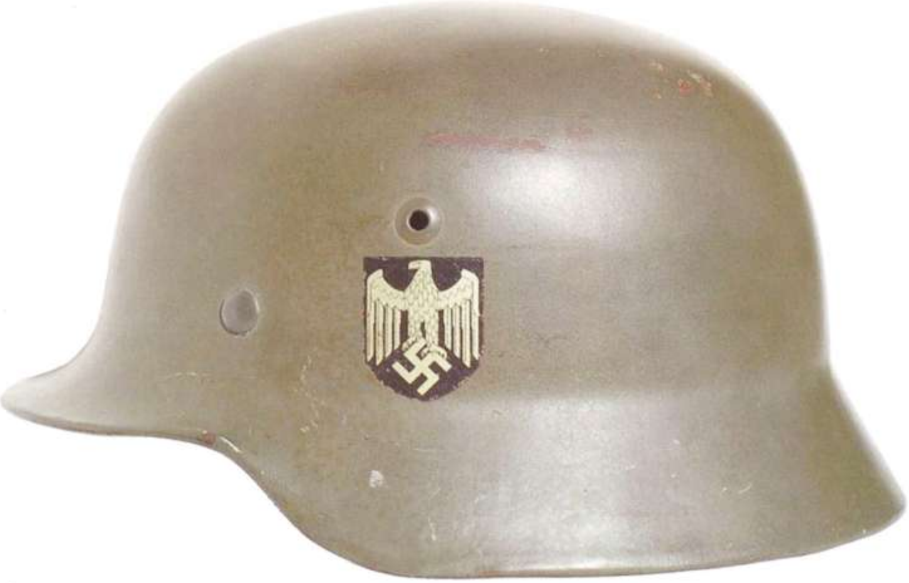
M35 *Heer* Helmets

By the spring of 1936 the units of the new German Army (as well as the *Wehrmacht* itself) were receiving significant numbers of the new helmet. Its rather striking contrast to the older previously used WWI models gave a new look to Hitler's forces. Although active combat usage was still a few years away and at that point still unforeseen, the more modern appearing, streamlined design of the Model 35 joined with the newly re-designed uniform regulations to create the appearance of a fighting formation drastically different from that of the old Imperial Army and the more recent military forces of the Weimar Government. This new appearance helped to reinstill a sense of pride not only in the German soldier but the civil population as well.

By the middle of 1936, the Germany Army stood at a strength of some 1/2 million men. (This number taken in contrast with the pre-1933 strength of 100,000 authorized by the still-in-effect Treaty of Versailles indicates the rapidity with which Germany was re-arming itself.) Although the Army had significant preference with regard to deliveries of the Model 35 helmet, it was to take some time before its issuance became universal among the various units. The Eisenhutten and Sachsische Emaillier factories were the only two in full production with the Quist and Vereinigte Deutsche Nickelwerke factories only beginning to deliver the first orders. According to research by Ludwig Baer the army did not receive anything close to 1/2 million helmets until early the next year. Further, with the continuing peacetime build up of the army it took several years to come close to the numbers required.

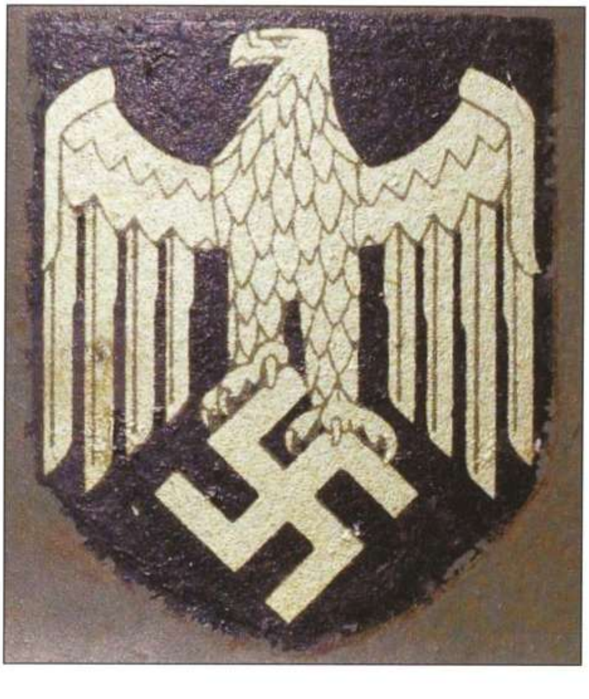


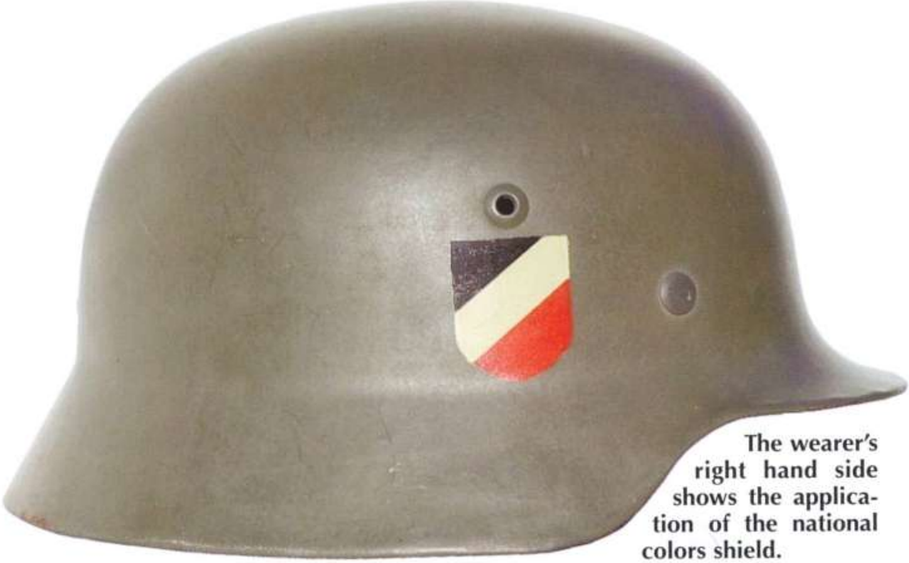
This excellent color photo shows the right side of an M35 double decal *Heer* helmet. It is interesting to note that the chinstrap buckle is seen here being worn on the soldier's right side as opposed to it's more commonly seen left hand position. The color of the painted finish and the general shape of the shell suggest that this helmet was produced by F.W. Quist. (Courtesy Akira Takaguchi)



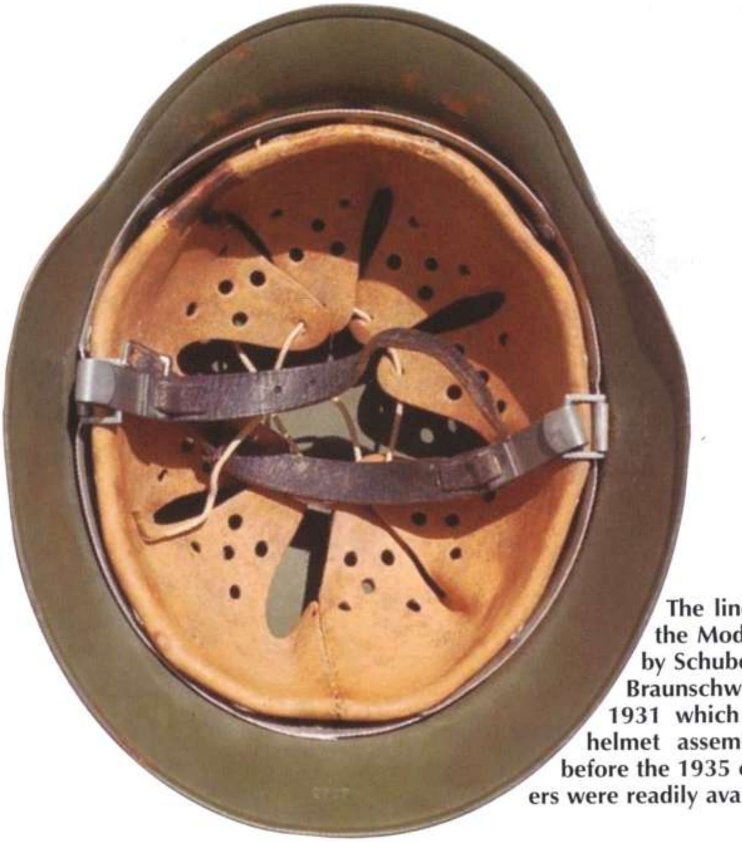
This M35 *Heer* helmet is one of the first to be produced at the Eisenhutten plant at Thale. The painted finish is the light colored *feldgrau* which is only seen on helmets made in the first year of production. The helmet actually pre-dates the introduction of the ET style eagle decal which is almost exclusively seen on helmets of this manufacturer. (Courtesy G. Spadaro)

Unlike insignia which would later be associated with the ET factory, this *Heer* eagle decal was produced by the Wilhelm Abels art printing firm of Cologne. By late 1935 or early 1936, the ET firm had received adequate supplies of its own specific style of eagle decal, however during the first months of production, they relied on whichever supplier could provide the necessary transfers. (Courtesy G. Spadaro)

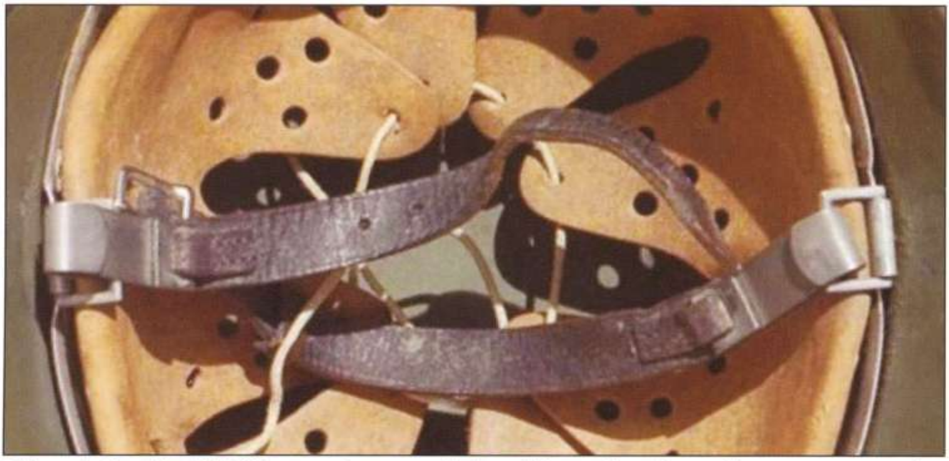




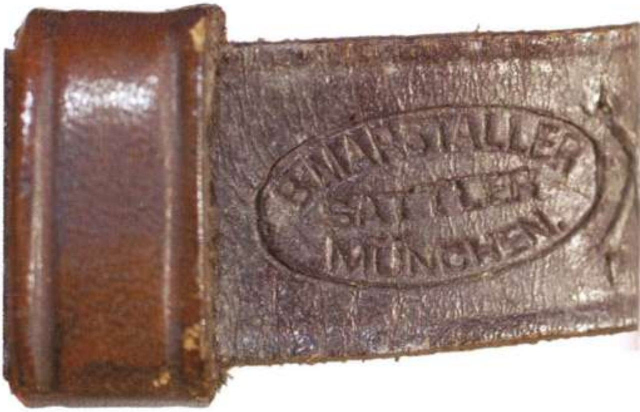
The wearer's right hand side shows the application of the national colors shield.



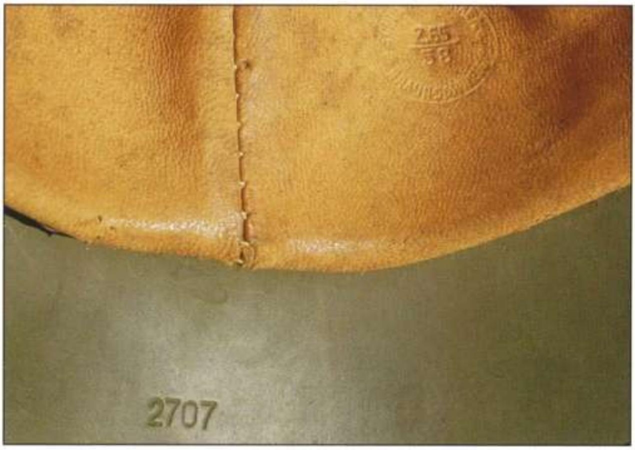
The liner assembly is the Model 1931 made by Schuberth-werke AG Braunschweig. It is dated 1931 which indicates the helmet assembly occurring before the 1935 contracted liners were readily available.



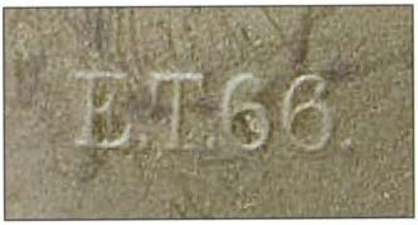
Although the Model 31 liner system was designed in conjunction with an accompanying chinstrap (referred to by association; the Model 31 chinstrap), very few of these are seen with manufacture dates earlier than 1936. The first helmets delivered for military contracts were mounted with chinstraps of various designs. Most of these incorporated the M18 style carbine hook closure snap. The chinstrap found on this ET-66 is a unique design utilizing two such carbine hooks, one attaching to each of the chinstrap bales. (Courtesy G. Spadaro)



The chinstrap maker mark indicates manufacture by the Benno Marstaller Leather and Saddle works firm of Munich.

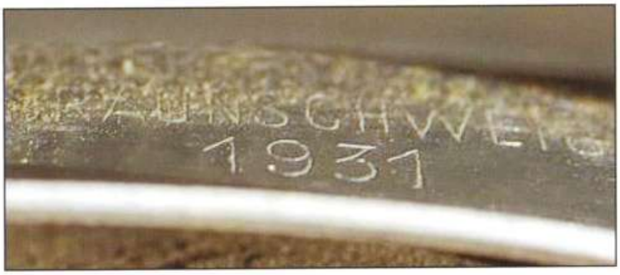


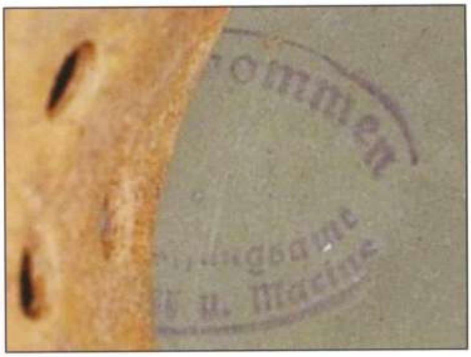
A detail photo showing the steel lot number (2707) and the die-stamped size marking on the leather of the liner.



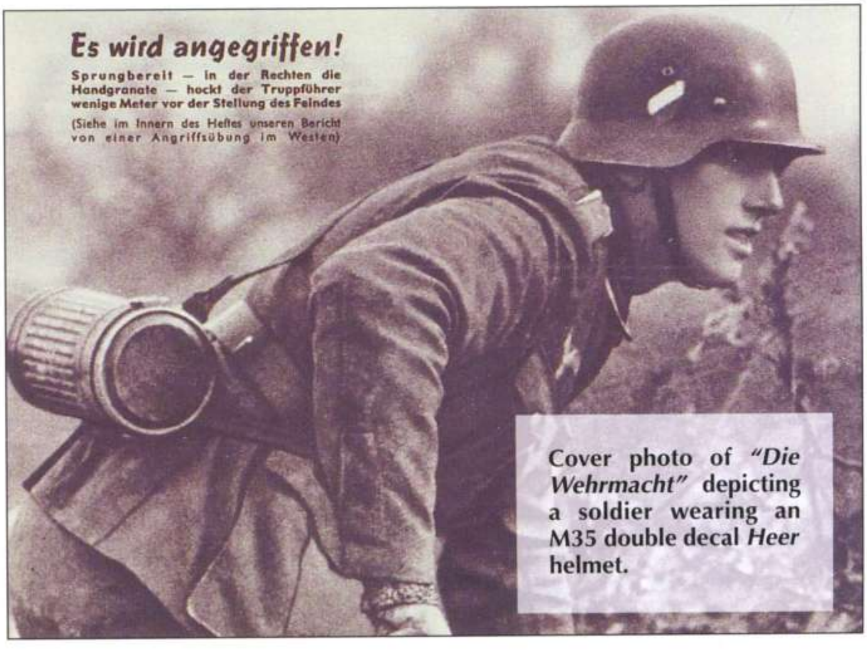
The size marking found on the wearer's left side is the early Gothic script ET followed by the shell size (66 centimeters).

The partially visible stamp on the liner frame shows the manufacturer marking of Schuberth-Werk A.G., dated 1931.





The acceptance stamp located inside the dome of the helmet is the first model type which has a Gothic lettering font and is slightly smaller than later used acceptance stamps. It is only partially visible and the date is not legible due to a weak strike but is almost certainly a 1935 dated example. (Courtesy G. Spadaro)

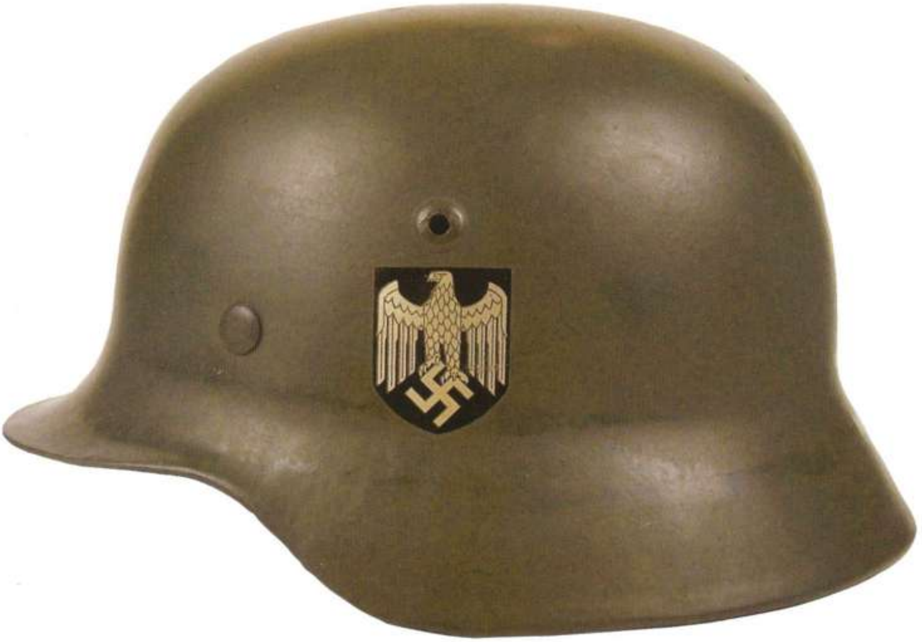


Es wird angegriffen!

Sprungbereit — in der Rechten die Handgranate — hockt der Truppführer wenige Meter vor der Stellung des Feindes

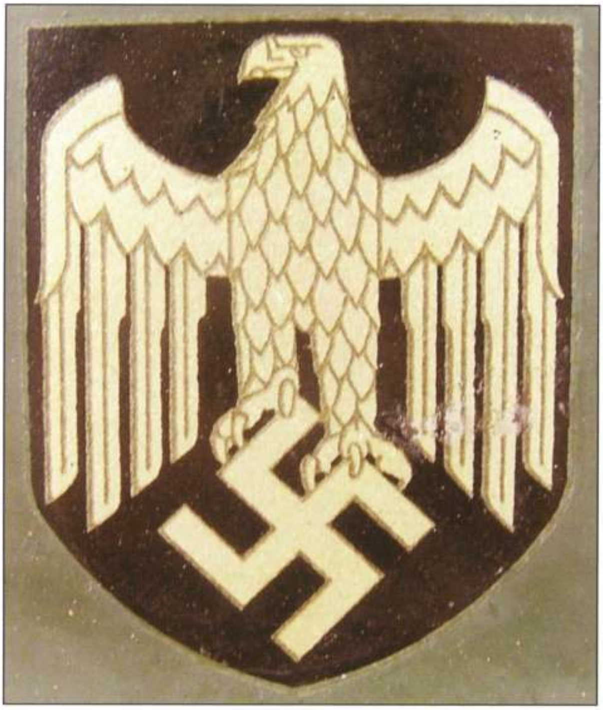
(Siehe im Innern des Heftes unseren Bericht von einer Angriffsübung im Westen)

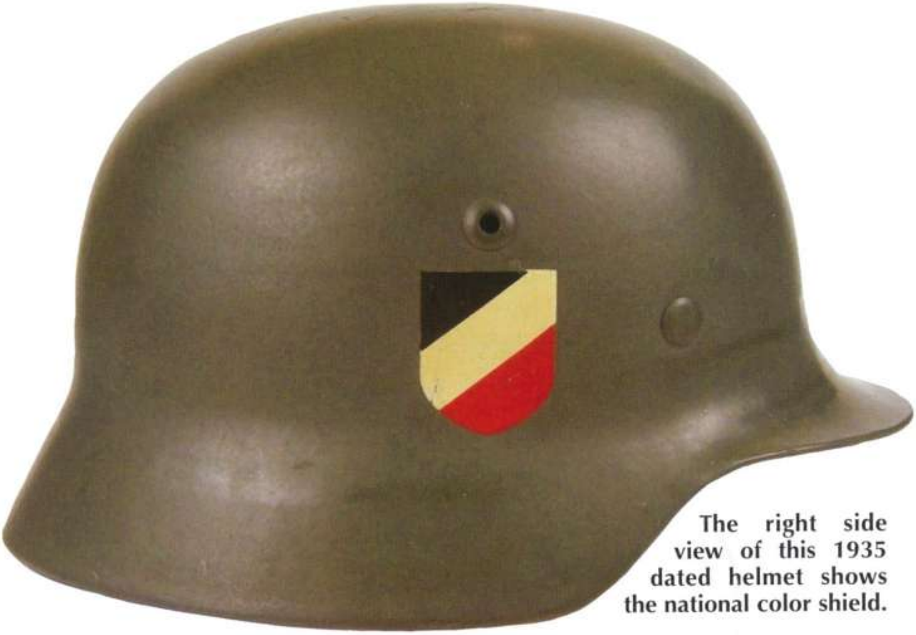
Cover photo of *"Die Wehrmacht"* depicting a soldier wearing an M35 double decal *Heer* helmet.



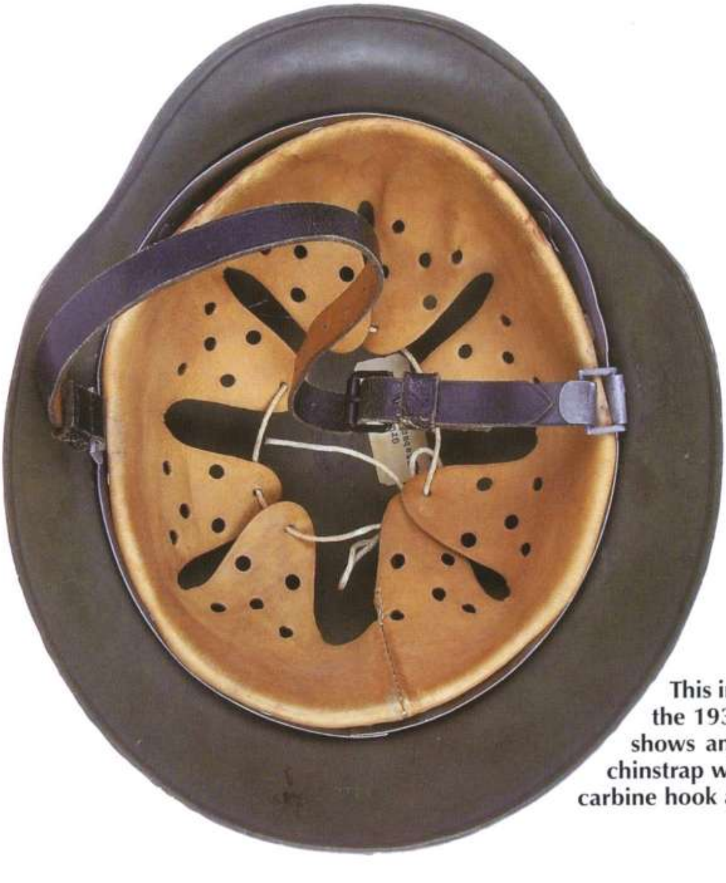
This ET-64 is another of the first Model 35 helmets that were delivered for the new army contracts in the fall of 1935. The painted finish is smooth texture *feldgrau.*

The *Heer* decal found on this example is the earliest variation of the ET style transfer. Decals of this pattern would be encountered on the vast majority of army contracted ET helmets until 1943.

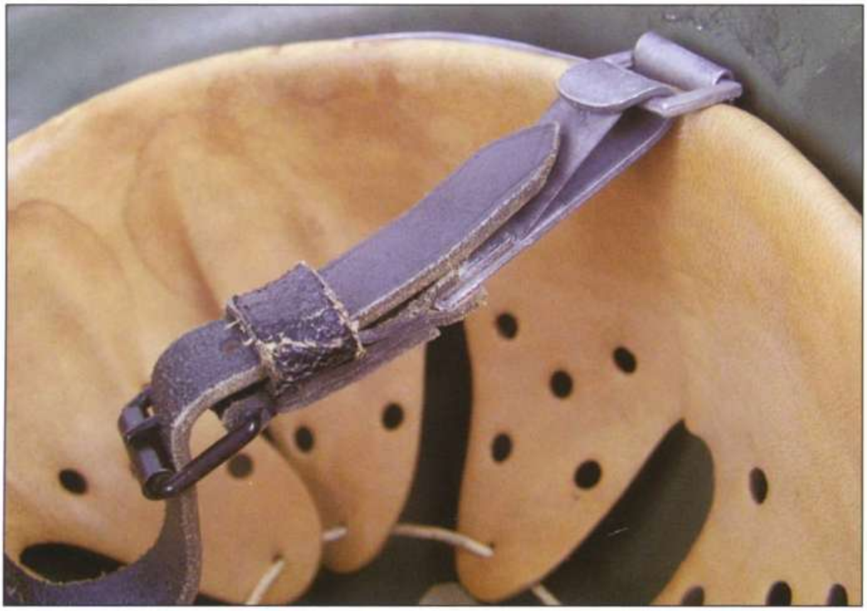




The right side view of this 1935 dated helmet shows the national color shield.

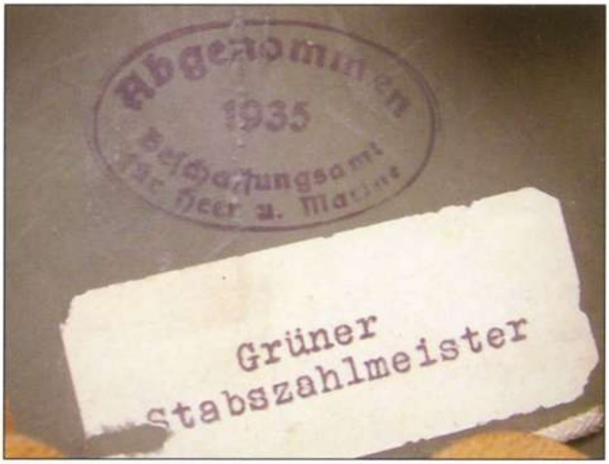


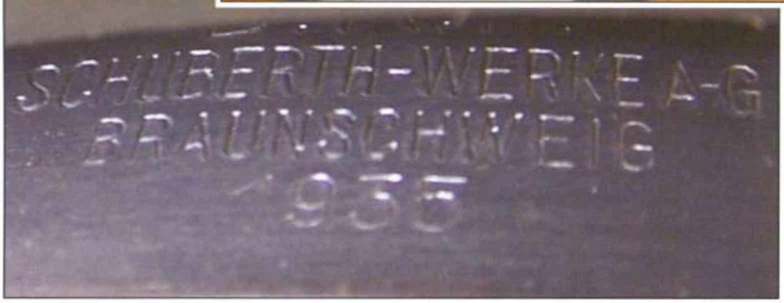
This interior view of the 1935 dated ET-64 shows an early pattern chinstrap which utilized a carbine hook attachment.



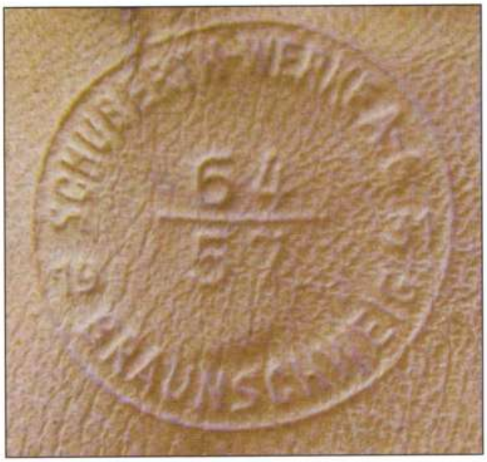
A close up of the carbine hook attachment and adjustment buckle.

The 1935 dated acceptance stamp is seen in detail. This helmet is identified as having been issued to a staff paymaster by the name of Grüner.



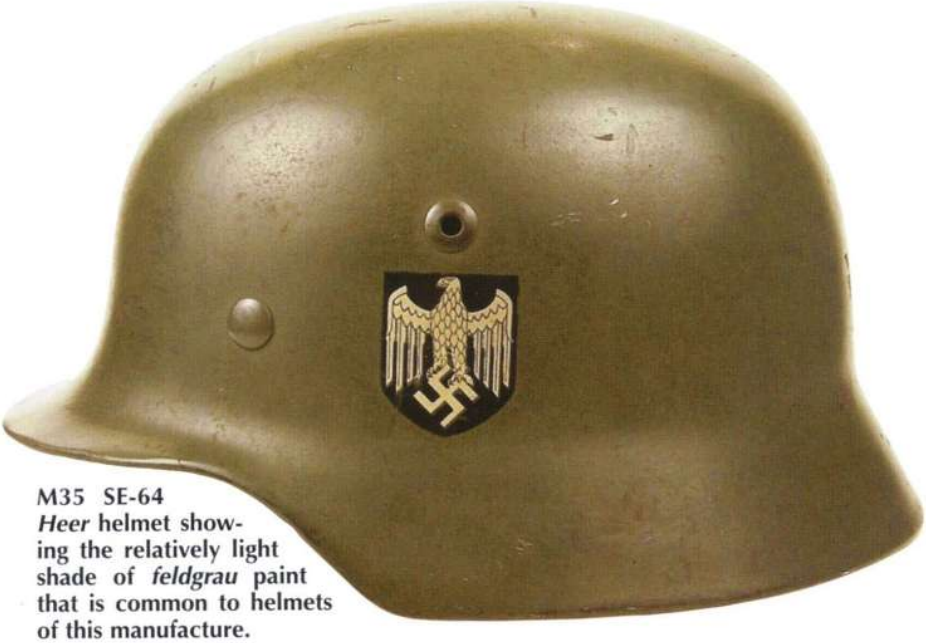


The manufacture/date marking of the Schuberth-Werke produced liner shows the 1935 date. Just visible in the photo are the letters "D.R.P." which have been added to the liner band marking in 1935.



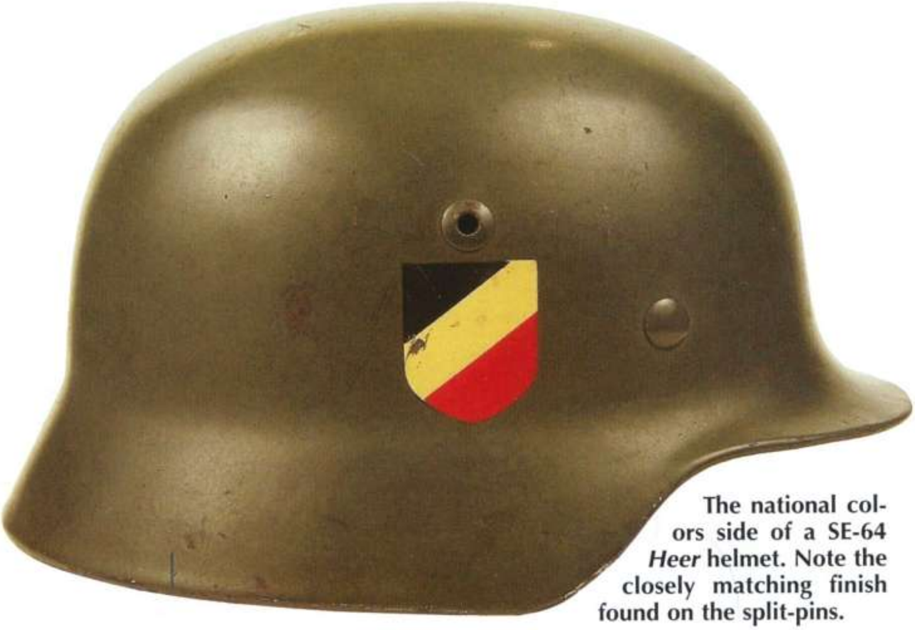
The die-stamped size marking found on the leather of this 1935 dated liner is within a circle and shows the liner manufacturer. The size marking continues to bear the date of 1931.

Joe Stone

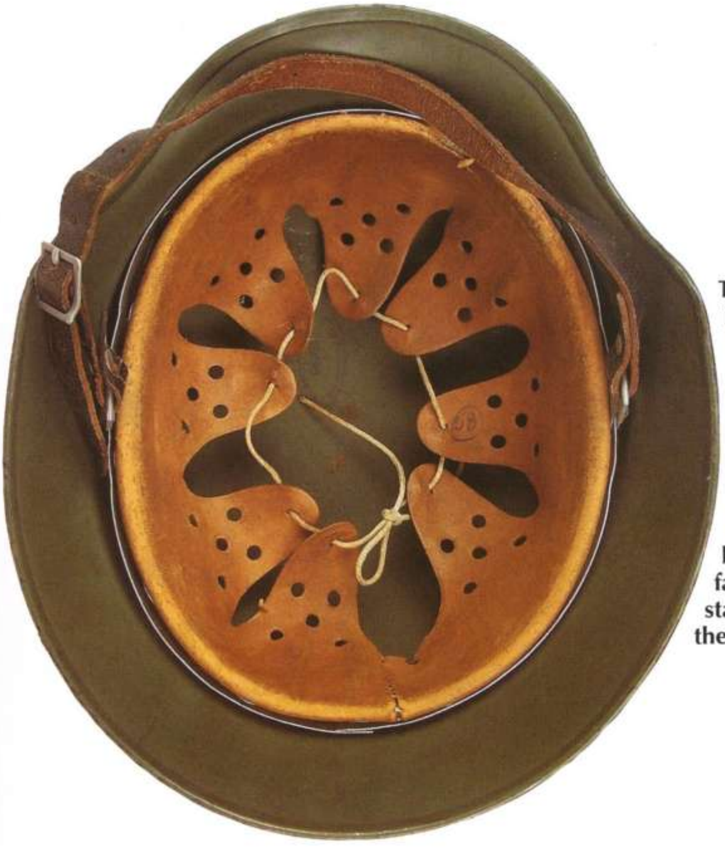


M35 SE-64
Heer helmet showing the relatively light shade of *feldgrau* paint that is common to helmets of this manufacture.

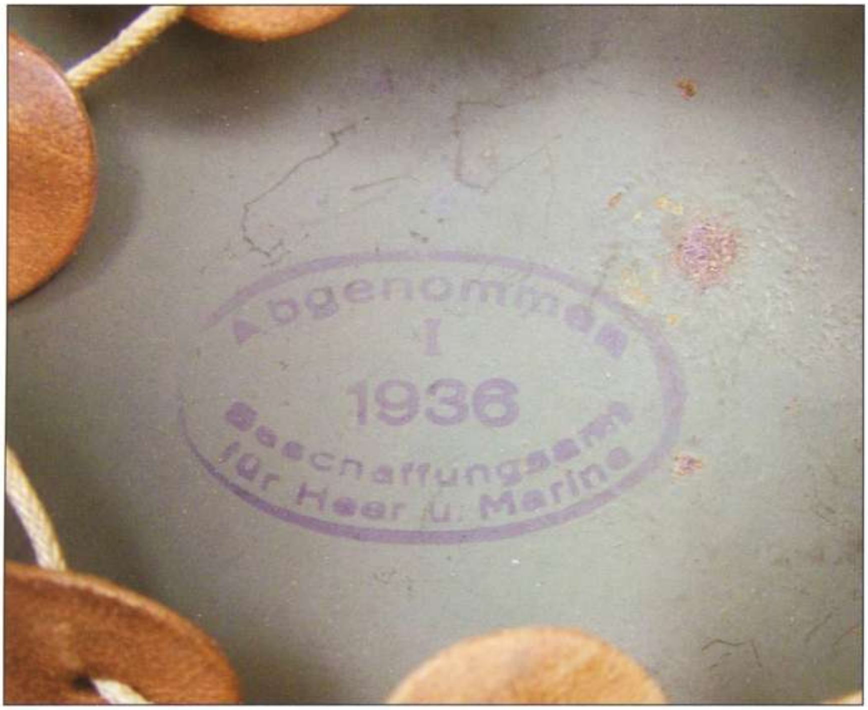
Knight's Cross Holder
Ofw. Georg Eschenbacher



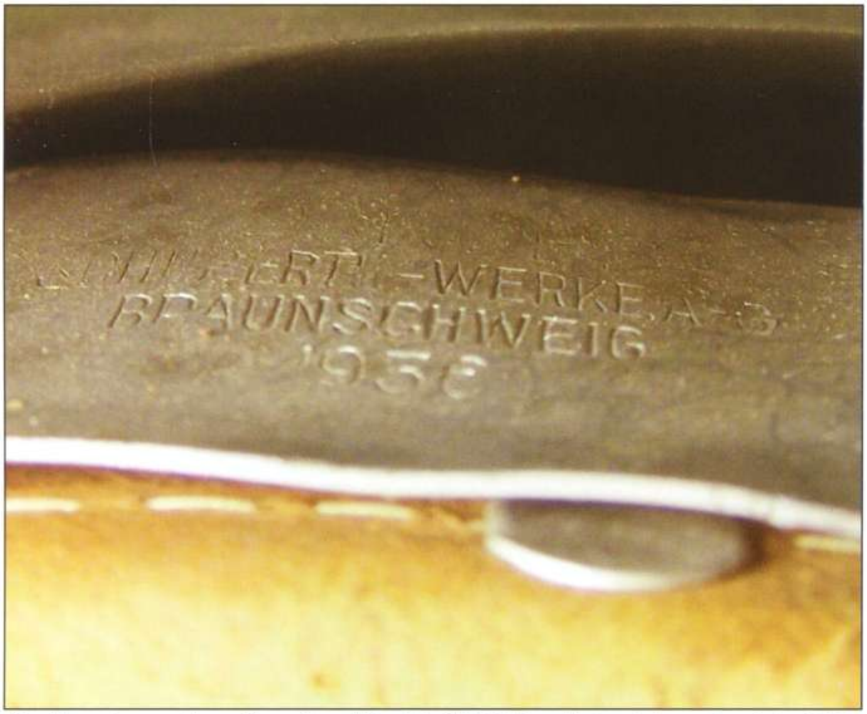
The national colors side of a SE-64 *Heer* helmet. Note the closely matching finish found on the split-pins.



This view of the interior of the SE-64 *Heer* helmet shows the M31 liner system. This liner is dated 1936. Note that the die-stamped liner size has been replaced in favor of the ink-stamp applied to the leather.

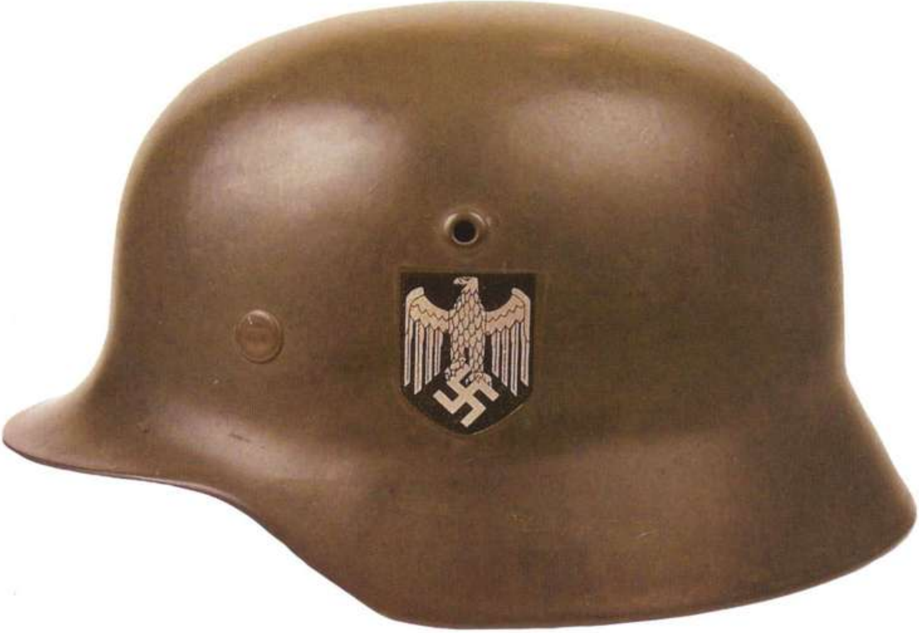


The acceptance stamp found inside this SE-64 helmet is dated 1936.



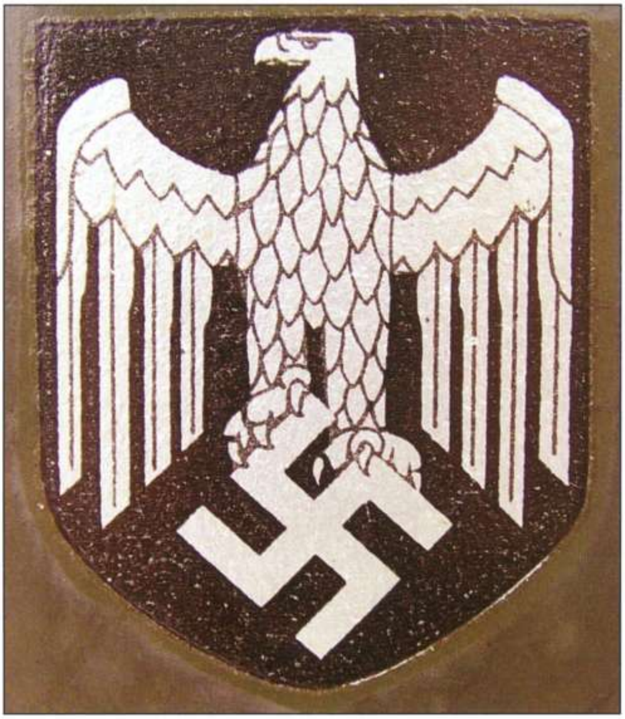
The liner stamped markings found in this SE-64 Heer helmet show the date 1936.

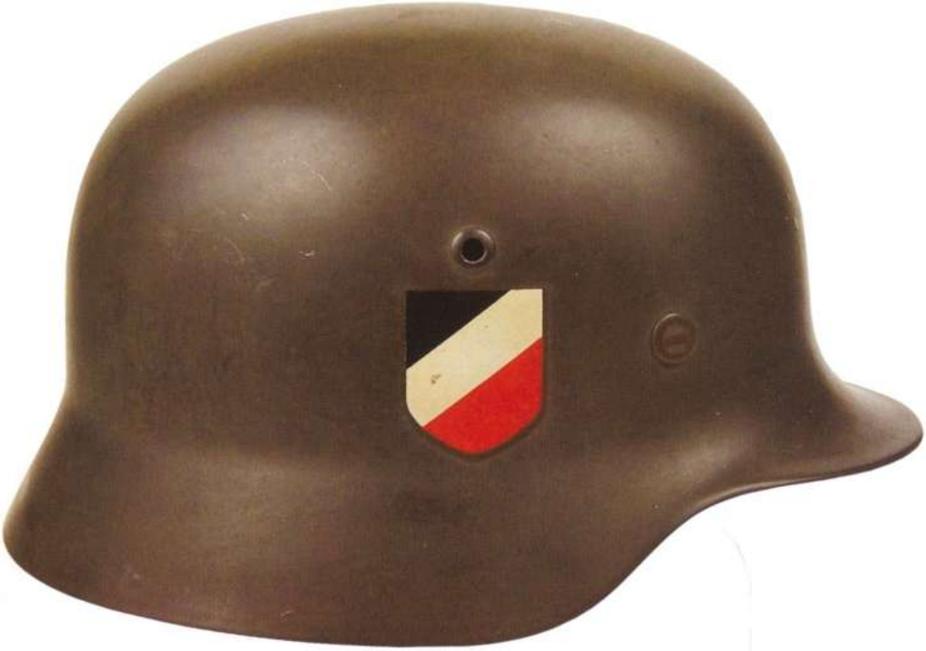
Joe Stone



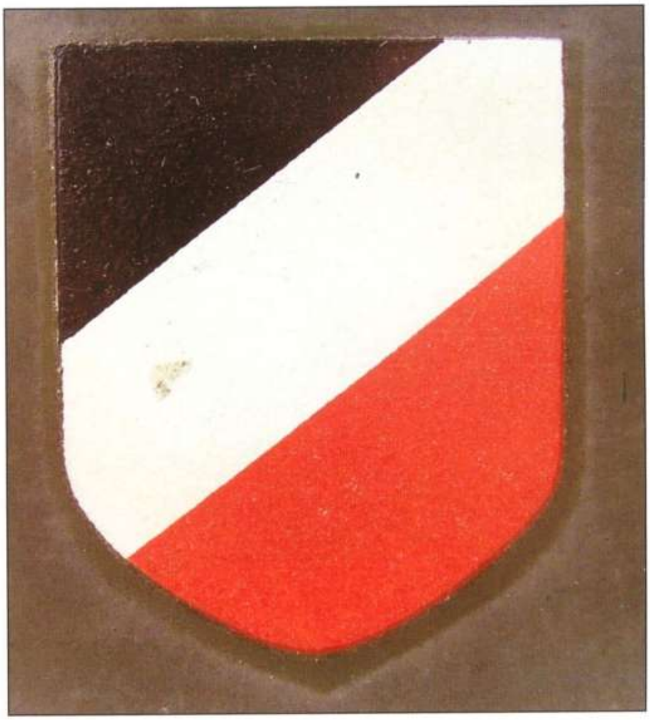
This 1937 dated M35 Q-64 helmet is finished in the fairly dark shade of paint used by the F.W. Quist factory after 1936.

A close-up view of the classic "big foot" decal used exclusively by the Quist factory. Note that the template used for applying the coat of protective lacquer is slightly off-set.

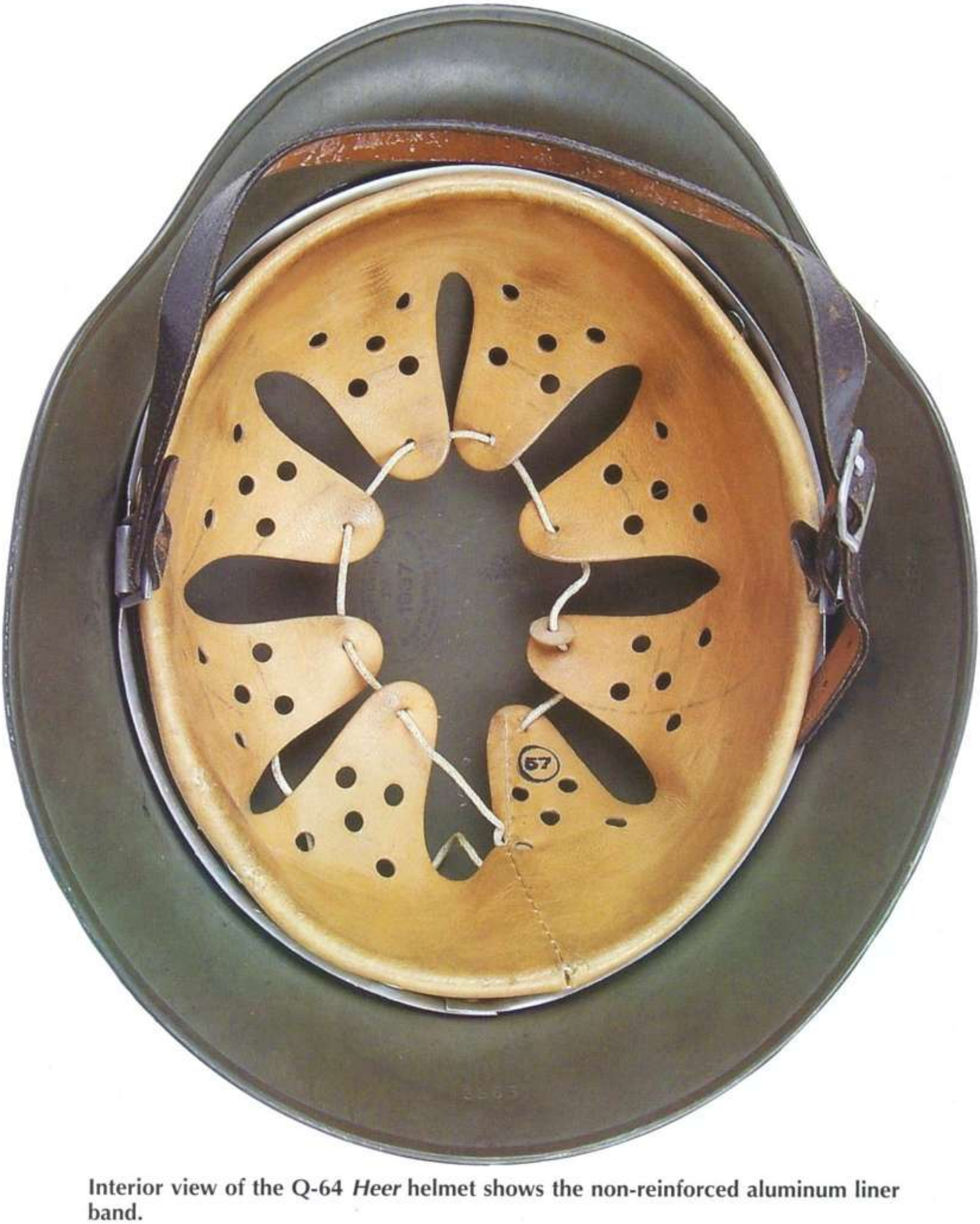




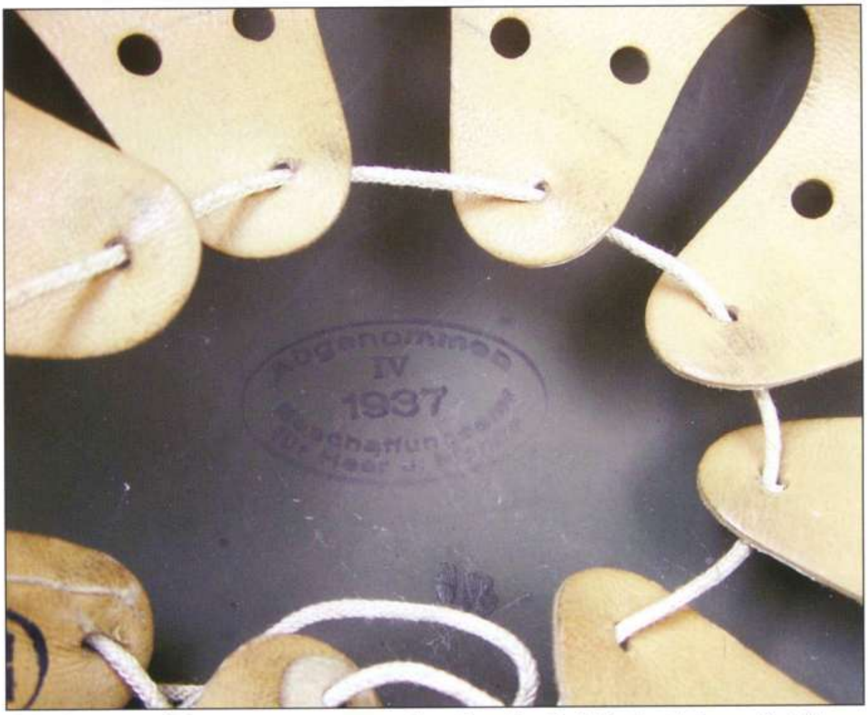
The national colors side of the Q-64 Heer helmet.



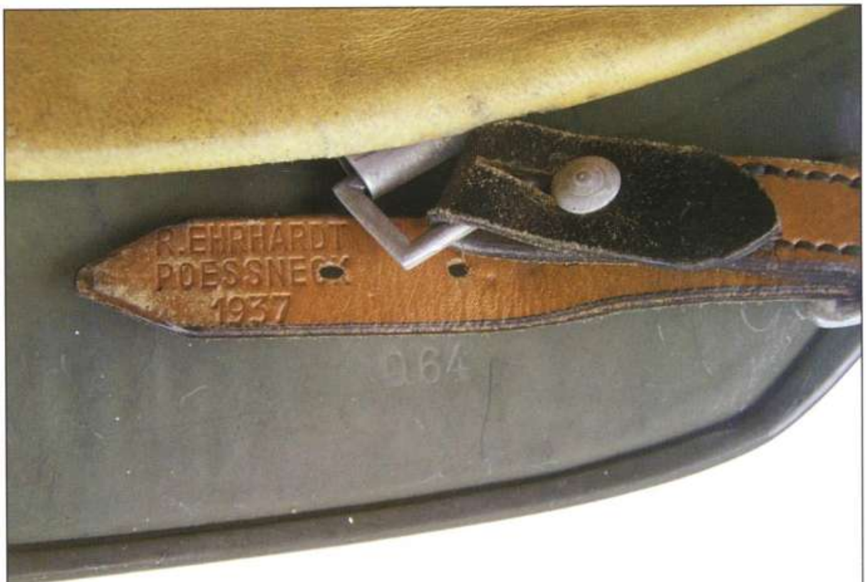
The photo of this national color shield clearly shows the borders of the protective lacquer which was applied over the decal.



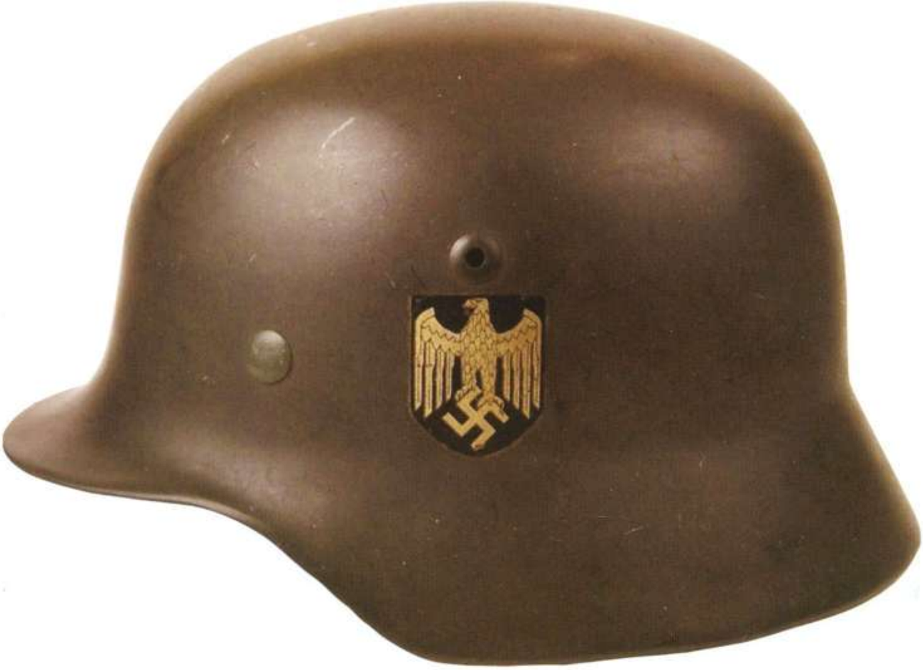
Interior view of the Q-64 *Heer* helmet shows the non-reinforced aluminum liner band.



This close-up of the acceptance stamp found on the Q-64 helmet shows that it was applied by Procurement Office Number 4 in 1937.

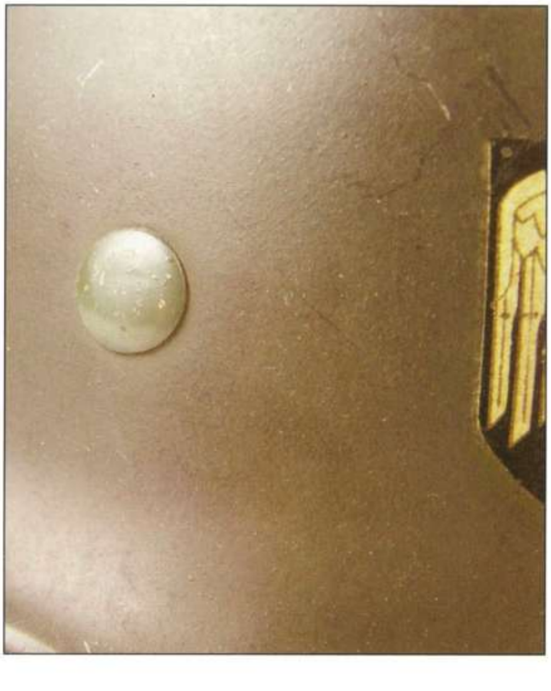


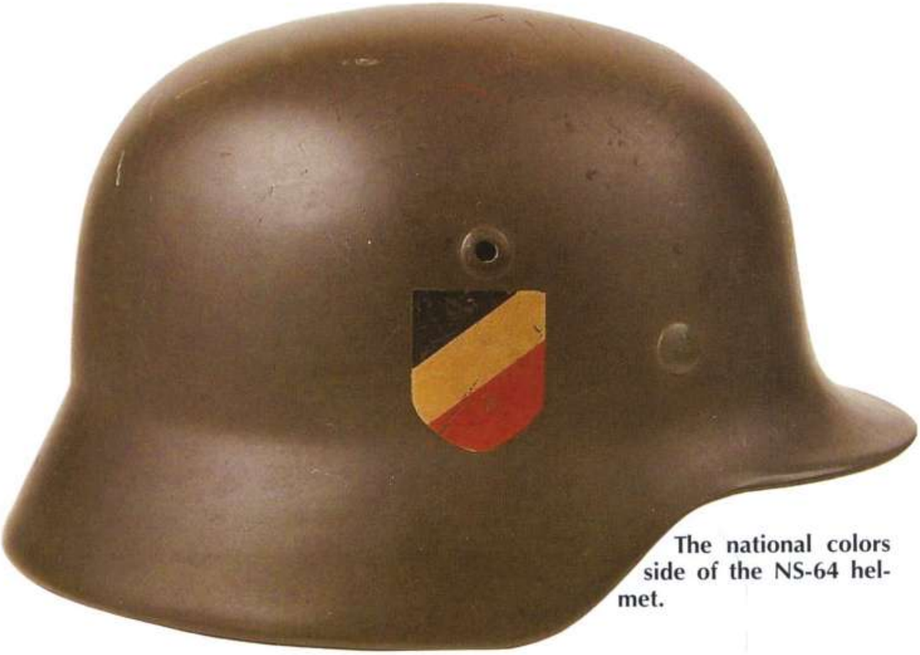
This view of the chinstrap markings shows the maker mark of "R.Ehrhardt" located in Poessneck, Thuringia. The Ehrhardt company was a major supplier of leather chinstraps in the early years of helmet production.



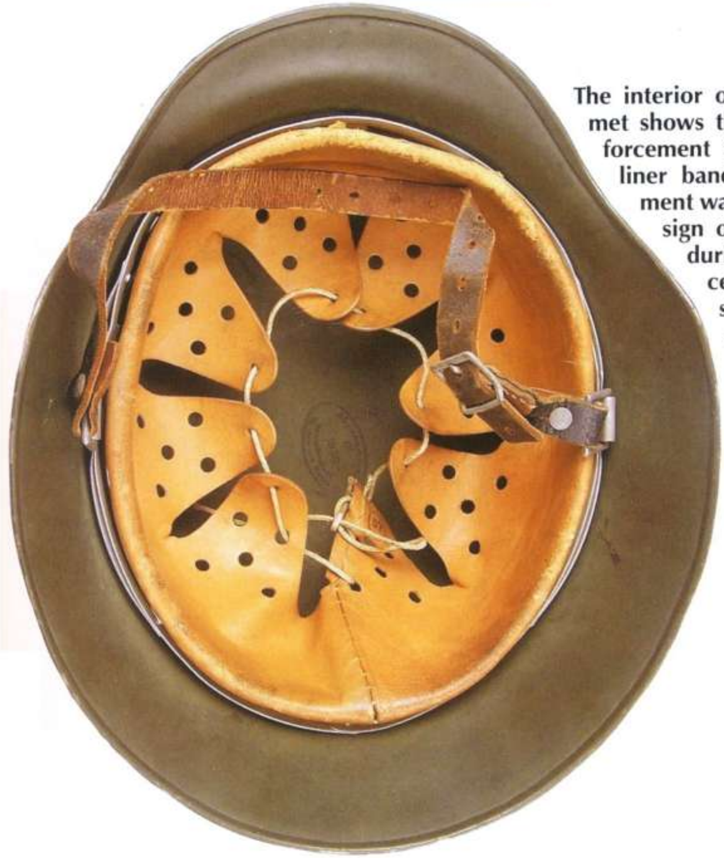
This view of an M35 NS-64 *Heer* helmet shows the particular shell characteristics of the NS maker. Due to the less pronounced angle of the rear flare, the profile appears to stand a bit taller than shells of other makers. The NS maker is known for using a darker shade of paint on helmets produced after 1937 as illustrated here. Prior to that the color was much the same lighter shade as used by ET.

This close-up of the split-pin head shows the difference in the paint between the split-pin and the helmet shell. Since split-pins are found with a variety of maker markings, it is clear that they were produced by subcontractors rather than by the helmet stamping factories themselves. It is probable that such stocks of split-pins often were painted before arriving to the place where assembly took place. Hence it is not surprising to note such differences in paint colors used.

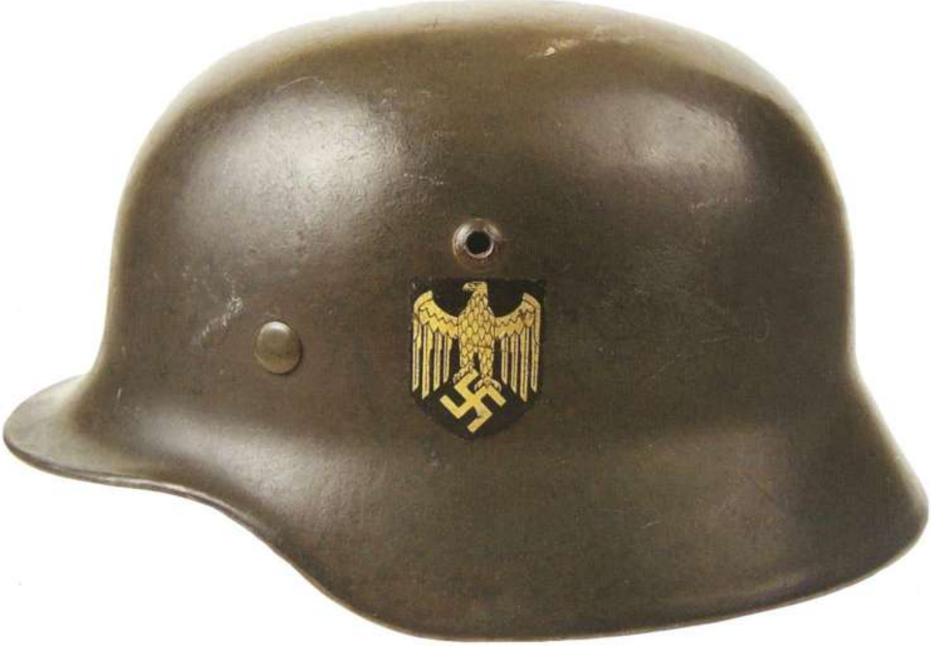




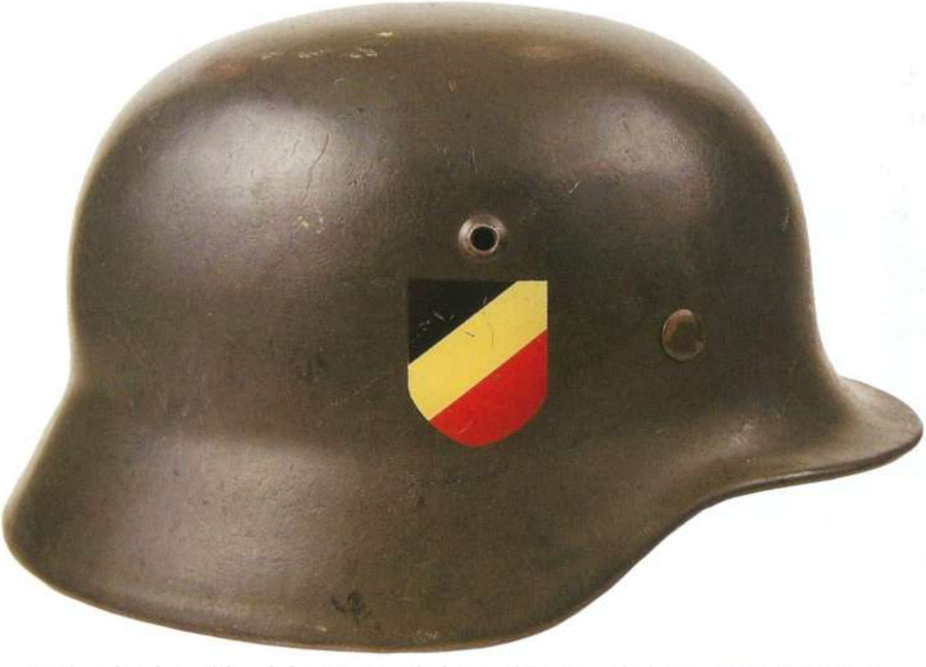
The national colors side of the NS-64 helmet.



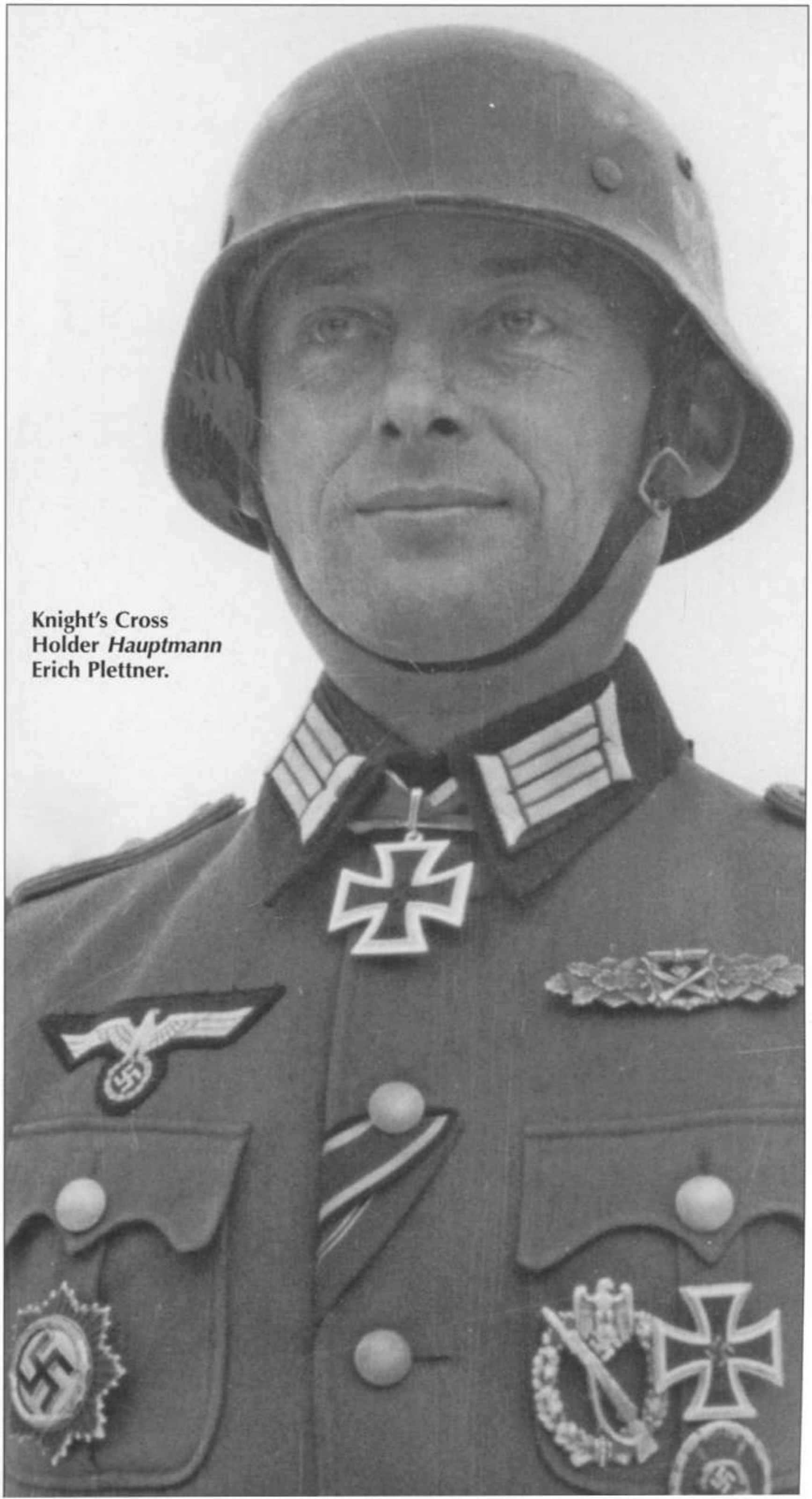
The interior of this NS-64 helmet shows the expected reinforcement to the aluminum liner band (this reenforcement was added to the design of the liner bands during 1937). The acceptance stamp inside the dome is dated 1939.



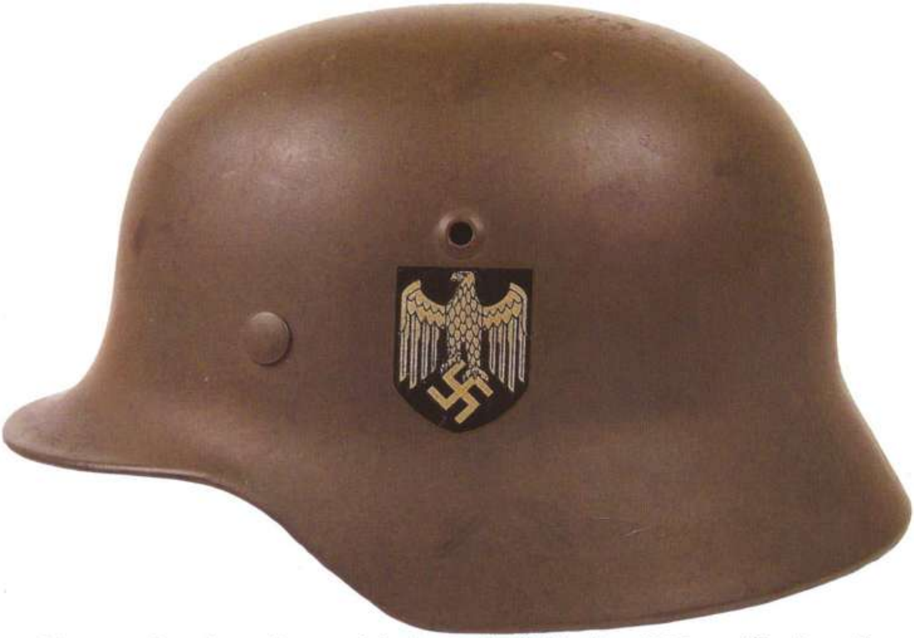
An M35 EF produced *Heer* specimen. Helmets produced by the EF manufacturer have a fairly dark green finish.



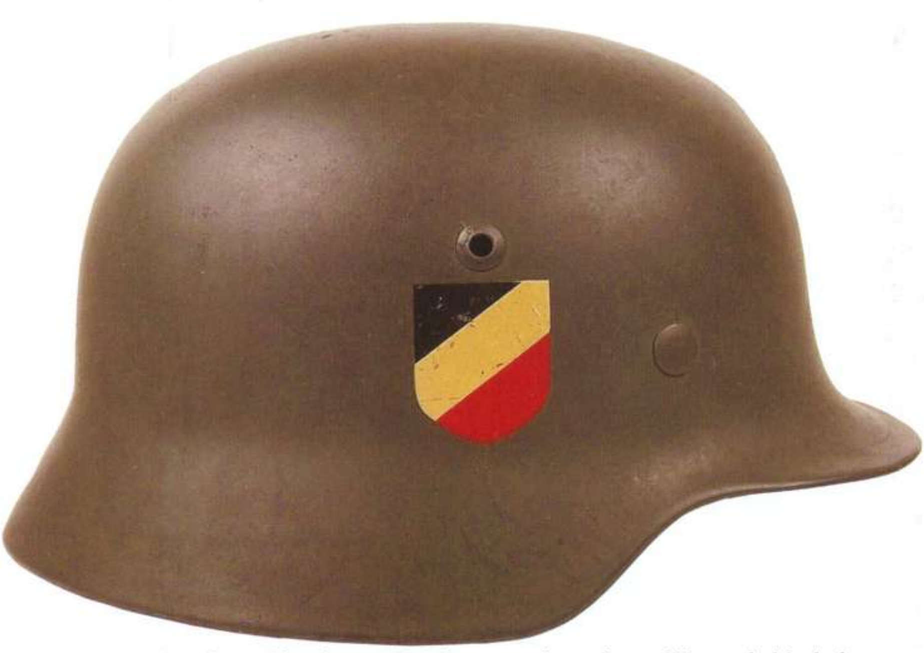
National colors side of the EF *Heer* helmet. This example has a 1938 dated liner band. There is no acceptance stamp placed on the inside dome. Very few EF produced helmets are found with an acceptance stamp.



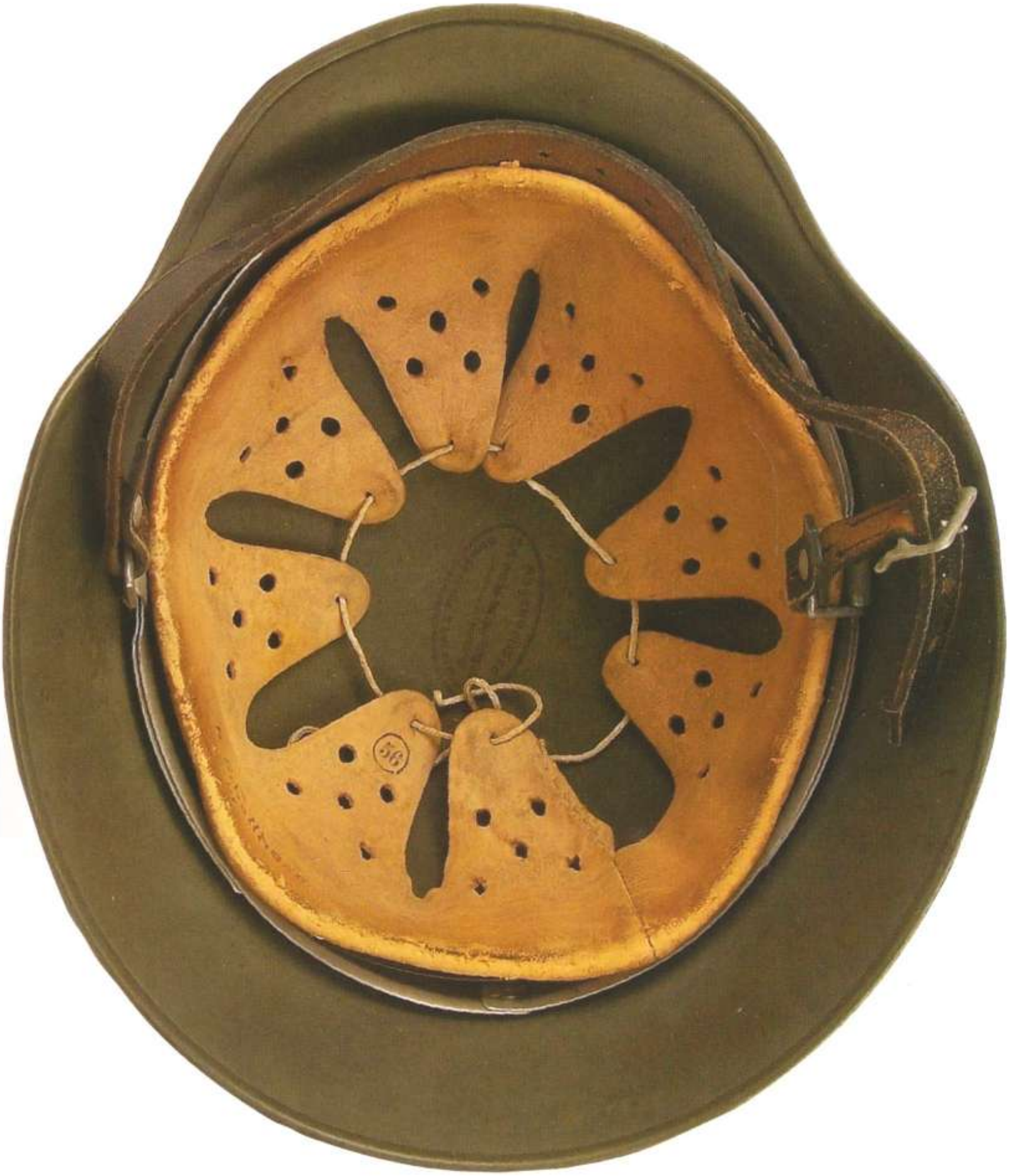
Knight's Cross Holder *Hauptmann* Erich Plettner.



This ET produced M35 is one of the last to be finished to 1935 specifications. The liner band is dated 1940 and the steel lot number indicates the shell was produced in 1940. (Courtesy G. Eigenfeld)



The national colors side shows the almost unissued condition of this helmet. (Courtesy G. Eigenfeld)

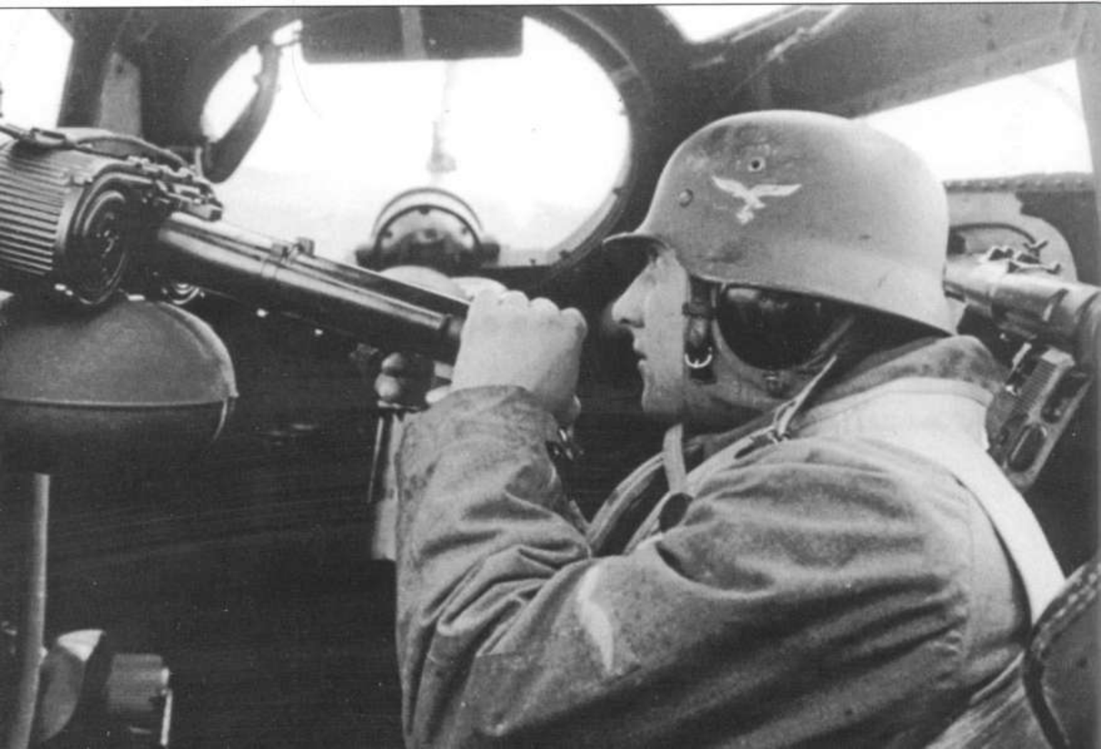


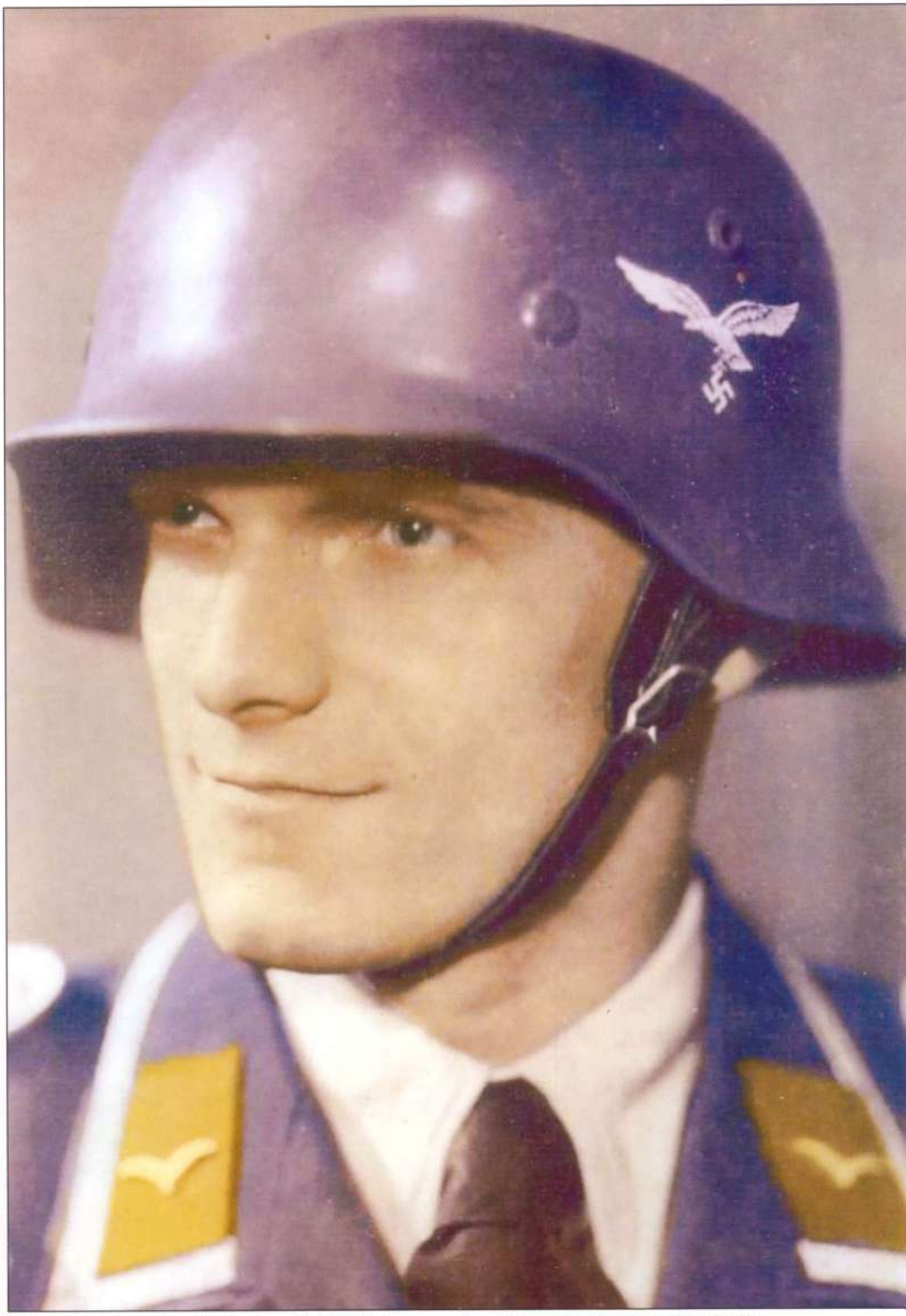
The interior of this helmet has an undated acceptance stamp inside the dome further illustrating its relatively late production. (Courtesy G. Eigenfeld)

M35 *Luftwaffe* Helmets

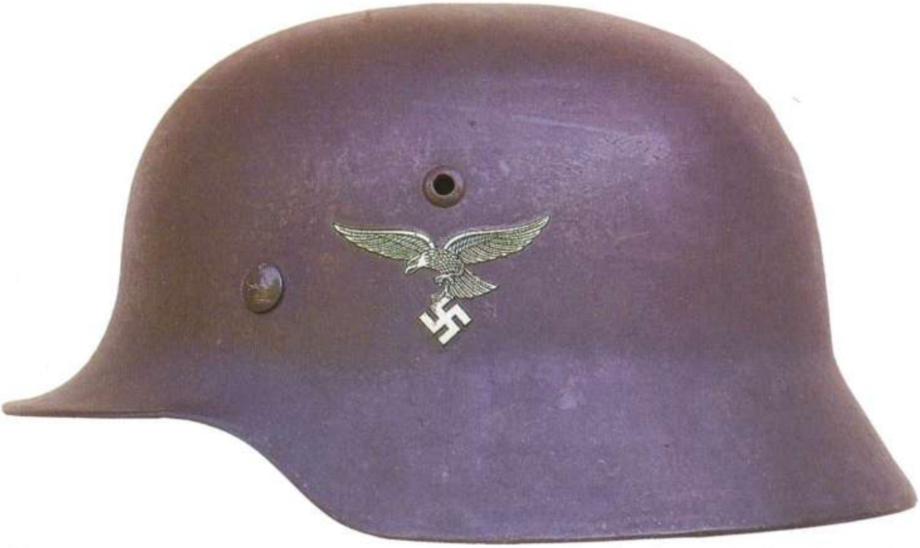
In the pre-war years, the *Luftwaffe* never received the number of helmets which had been delivered to the Army. By reason of its smaller size in comparison to the Army and the fact that it did not rank first in priority regarding supply of the new helmet, there was, at least in the early years, a marked difference in the numbers produced and accepted by procurement offices of the air-arm. However, judging by the empirical evidence today, it seems that the survivability of early *Luftwaffe* helmets may have been greater than that of helmets issued to ground combat units. A great percentage of *Luftwaffe* M35s were issued to aircrews, air field ground personnel and members of Flak units. By reason of their more limited exposure to field conditions there is in existence a number of helmets which have survived the war in an un-altered (non-reworked) and combat worn state that is more on par with the number of *Heer* helmets which have survived from the greater overall numbers supplied. Early *Luftwaffe* helmets are often encountered with unit designations ink-stamped in the helmets, die-stamped on leather components or hand-written/painted on the shell interiors. Interestingly, the insignia of the *Luftwaffe* is the only one of the major services which underwent a drastic change in graphic design; as will be illustrated in the following section.

This aircraft crewman on board a Dornier DO17 mans a MG15 from a side window position.

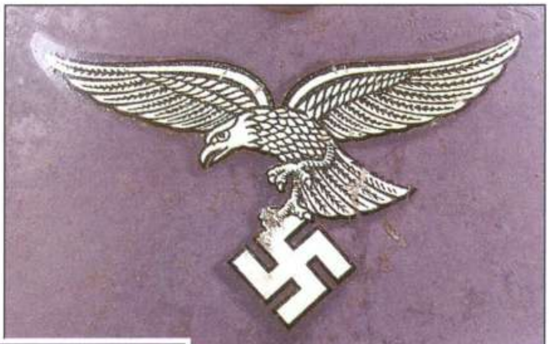




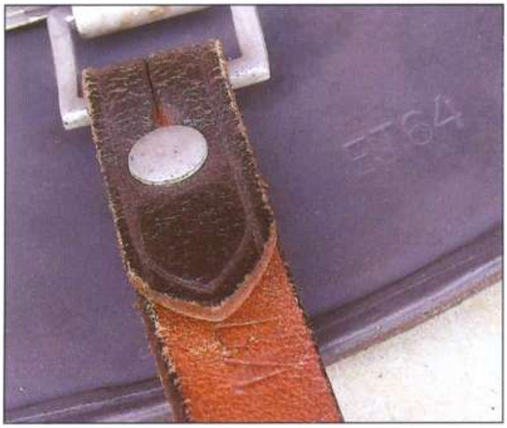
This portrait photo of a *Luftwaffe* NCO shows a nice view of an M35 *Luftwaffe* helmet bearing the "second pattern" stylized eagle decal.



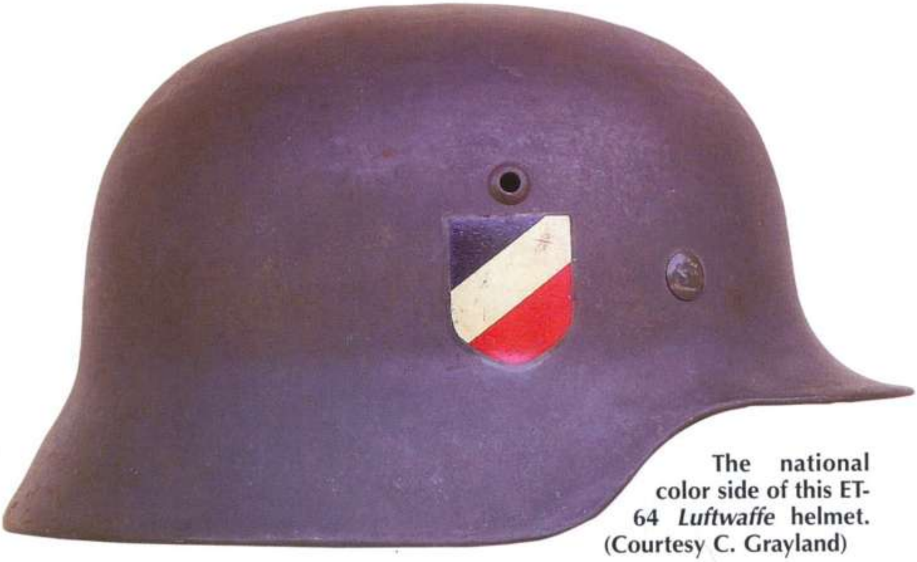
This ET-64 M35 *Luftwaffe* helmet is an excellent example showing little effects of color altering patina on the painted surface. The helmet is adorned with the first pattern droop-tail eagle decal with a curved leg, known as the "snake-leg" pattern. (Courtesy C. Grayland)



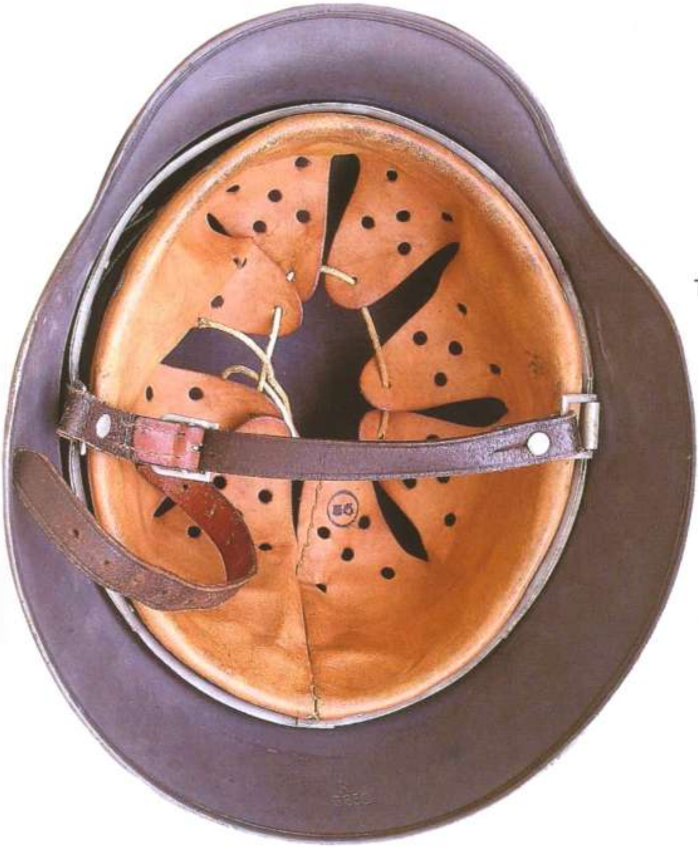
This close-up photo shows an excellent example of the first pattern *Luftwaffe* decal. (Courtesy C. Grayland)



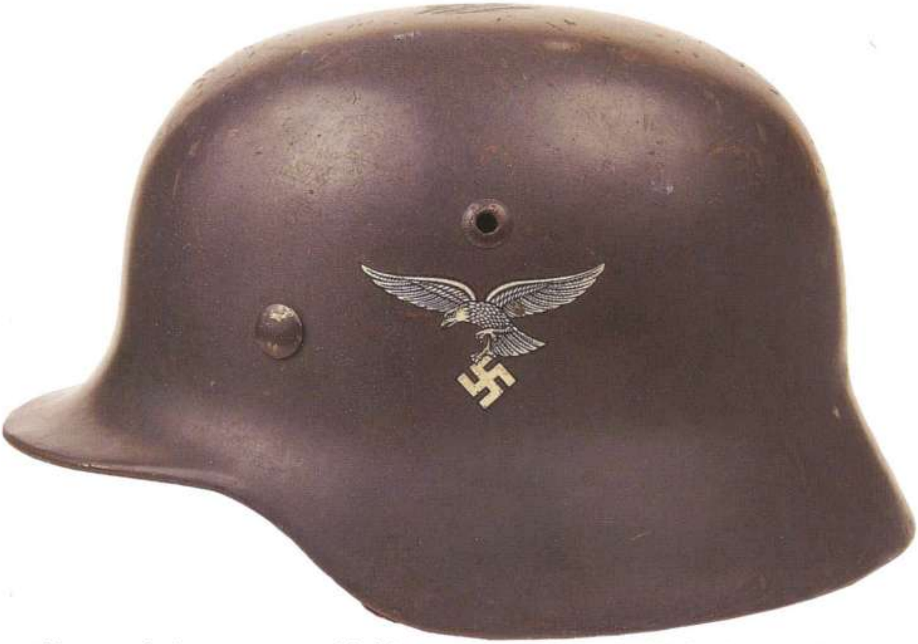
This close-up photo shows the chamfered aluminum chinstrap bale as well as the dark brown dye used on early *Luftwaffe* issue chinstraps. Note the last two letters of the stamped *Luftwaffe* acceptance code; L.B.A. or *"Luftwaffe Beschaffungs Amt."* (Courtesy C. Grayland)



The national color side of this ET-64 *Luftwaffe* helmet. (Courtesy C. Grayland)

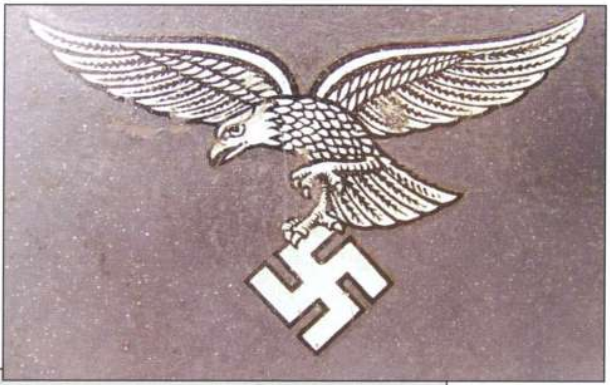


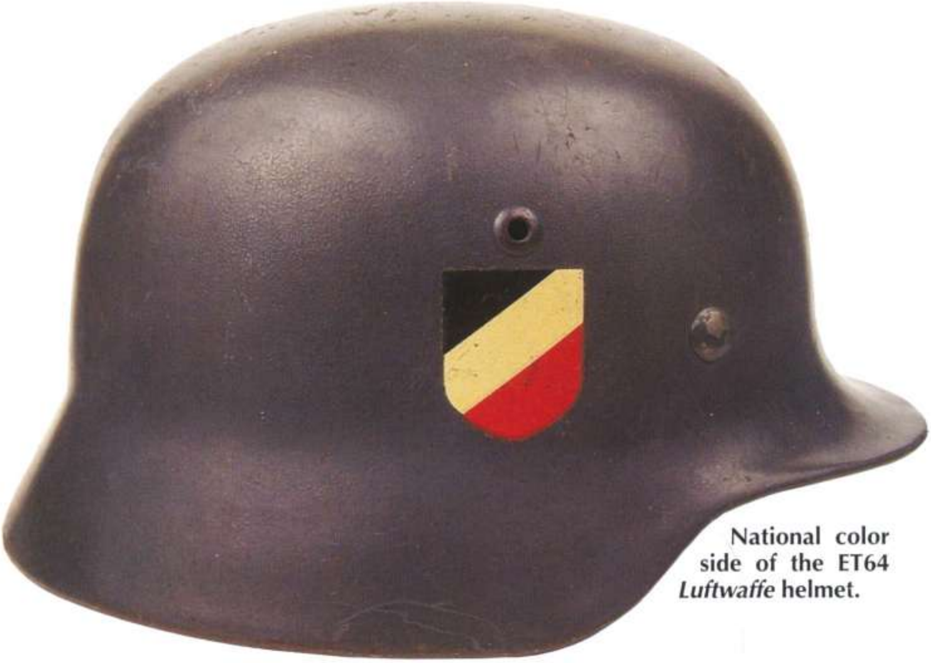
The interior of this ET-64 *Luftwaffe* helmet shows the almost unissued condition 0f the liner. The chinstrap bears a 1936 date. (Courtesy C. Grayland)



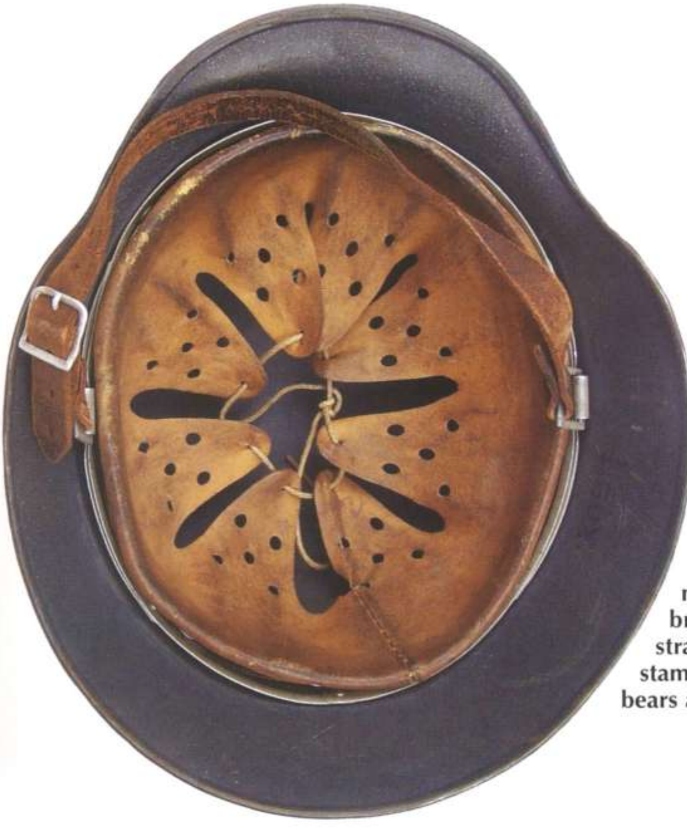
This ET-64 helmet was assembled in 1938. It is adorned with the droop-tail eagle decal with a straight leg.

Although commonly referred to as the "1st pattern" decal, this main-variant droop-tail eagle remained in use until 1940 in conjunction with the stylized decal seen on the next helmet

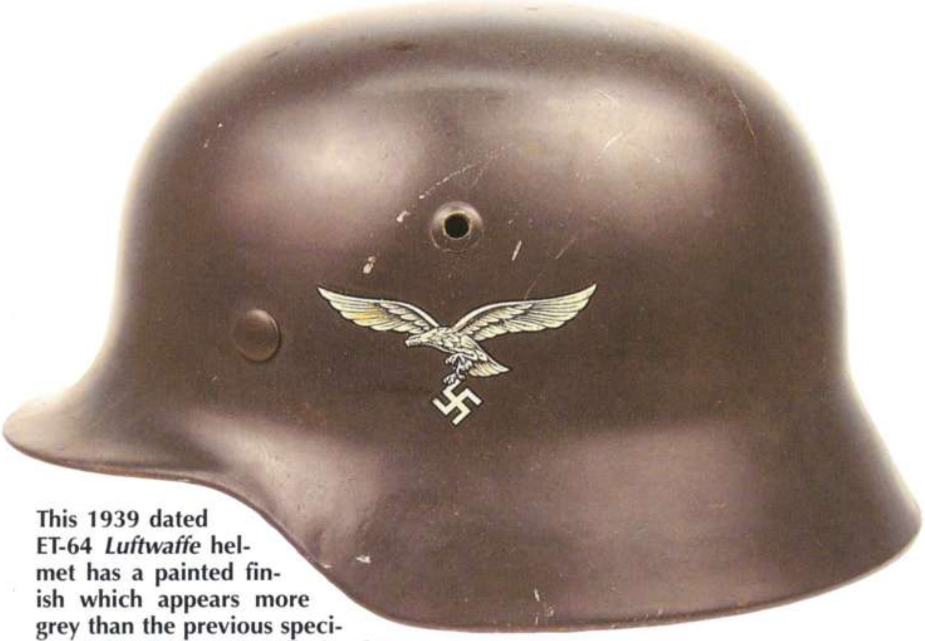




National color side of the ET64 *Luftwaffe* helmet.

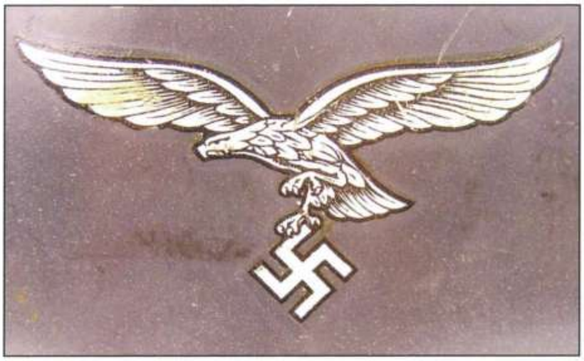


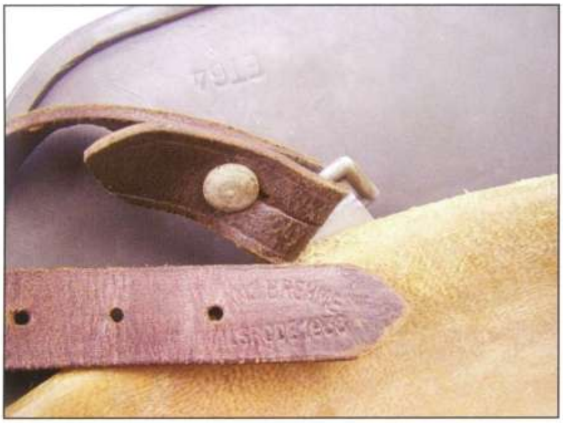
This interior view of the ET-64 *Luftwaffe* helmet shows its reinforced aluminum liner and a brown leather chinstrap. The acceptance stamp inside the dome bears a faint 1938 date.



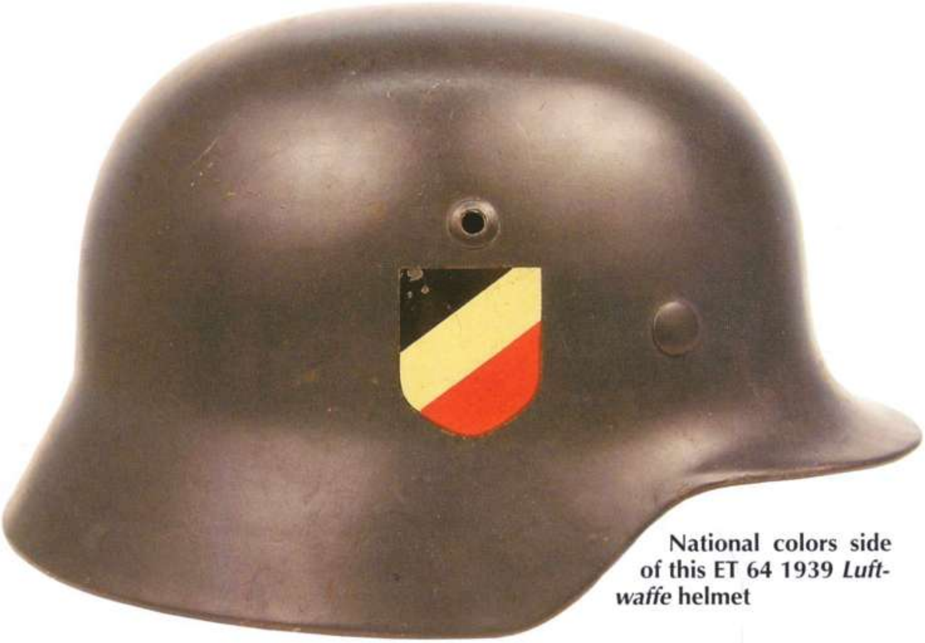
This 1939 dated ET-64 *Luftwaffe* helmet has a painted finish which appears more grey than the previous specimen. A stylized *Luftwaffe* decal is applied to the left side. (Courtesy K.Kithier)

The *Luftwaffe* eagle decal found on this M35 ET-64 helmet. This stylized decal is the main variant found on *Luftwaffe* helmets. It first appears on helmets dated 1937 and continues to be seen on helmets of all makers until the end of decal application in 1943.

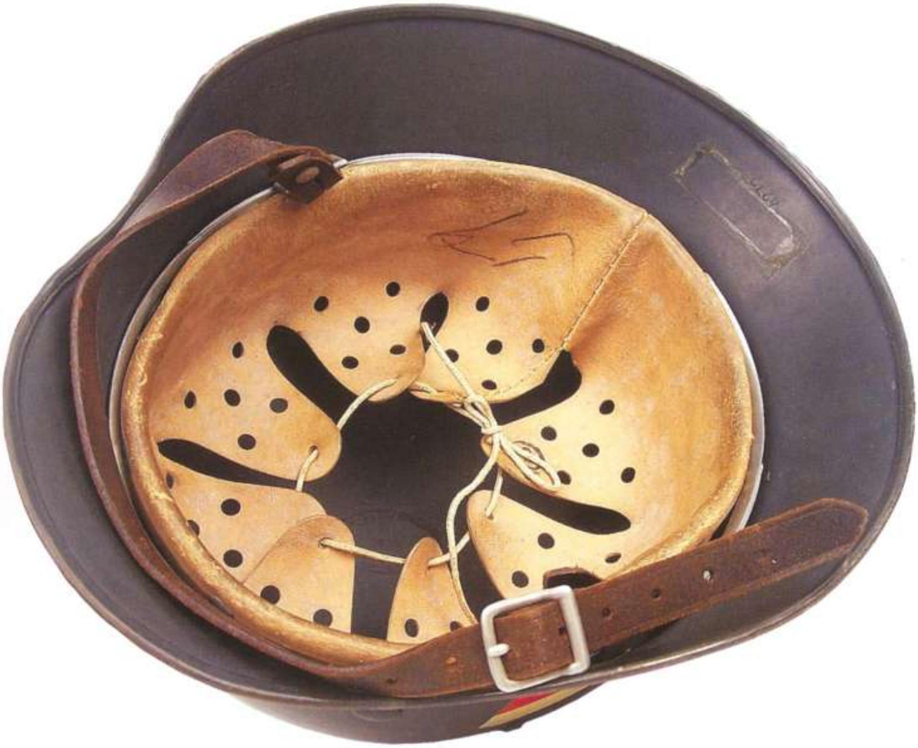




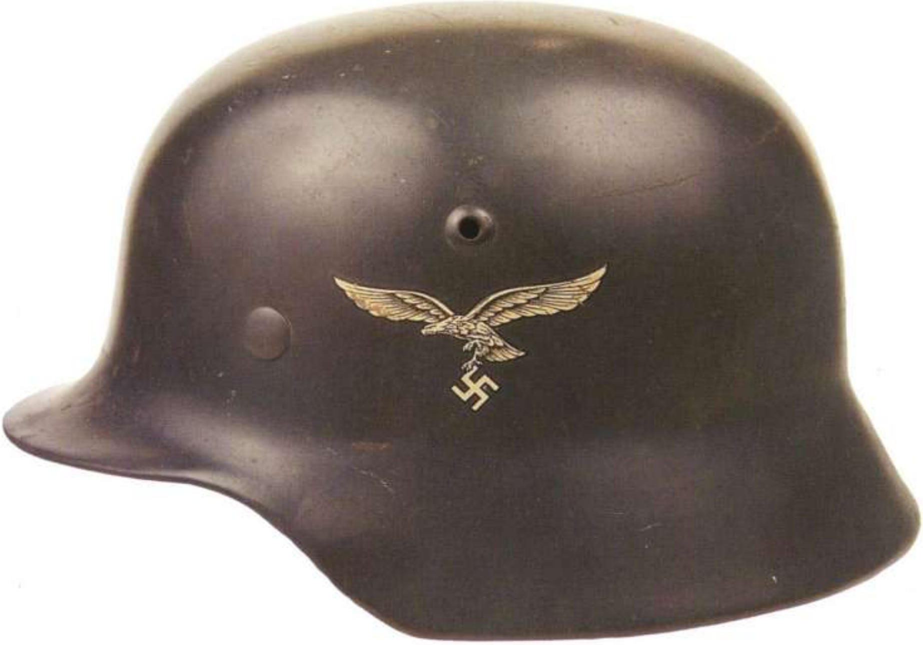
This detail photo shows the brown *Luftwaffe* issue chinstrap which is dated 1938



National colors side of this ET 64 1939 *Luftwaffe* helmet

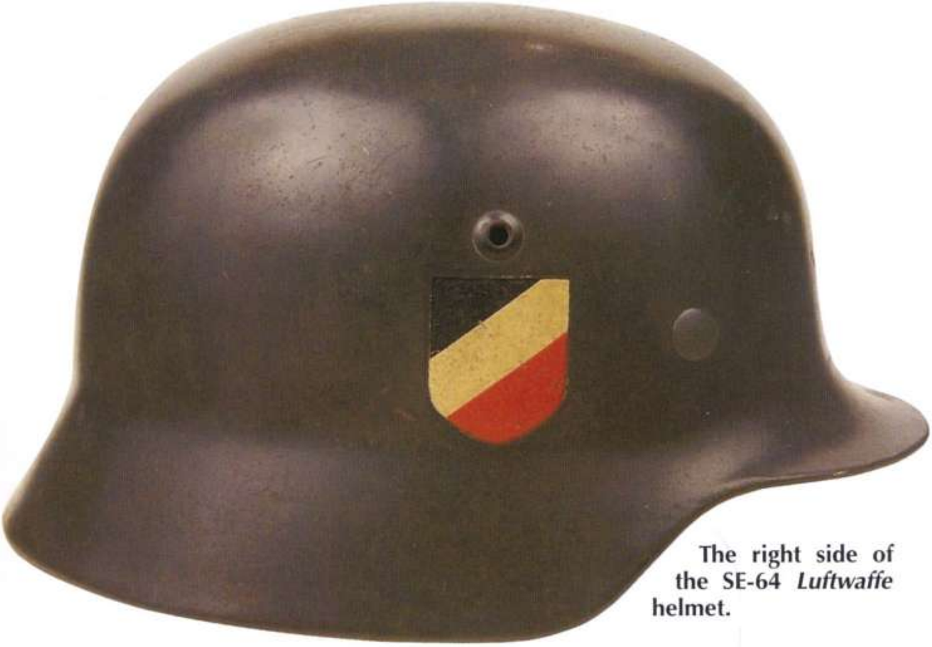


Liner detail of the 1939 ET-64 *Luftwaffe* helmet. Note the handwritten number 59 on the liner. This is the price (59 cents) which was written on the helmet liner when it was offered for sale at a junk shop in the early 1960s.

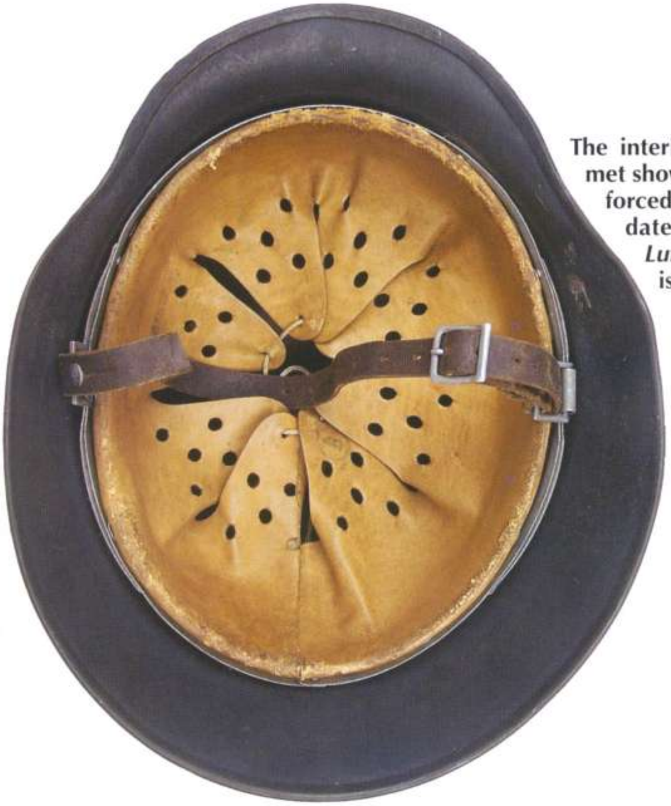


This is an example of an SE-produced *Luftwaffe* M35 helmet. It bears the stylized eagle decal commonly referred to as the "second pattern."

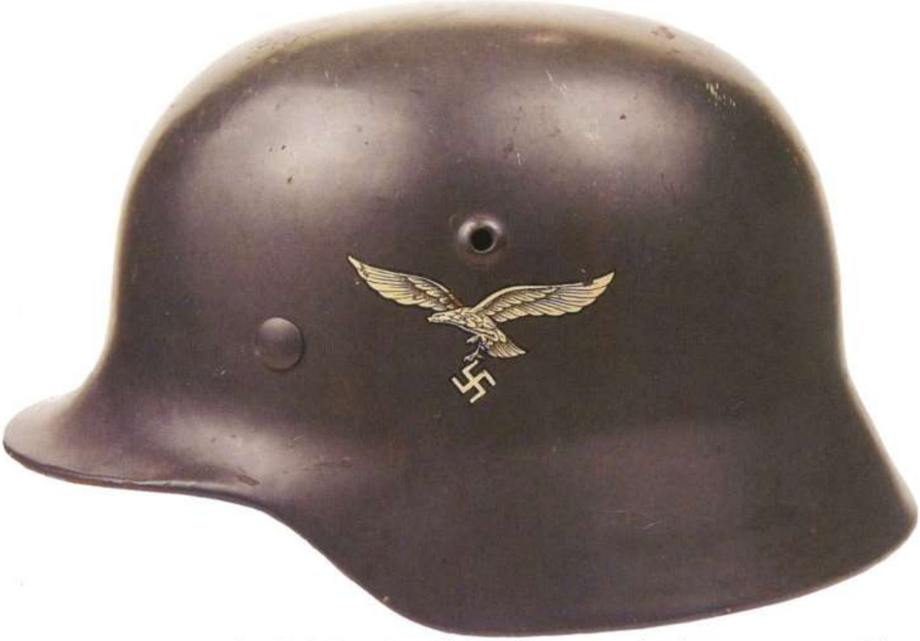
A. Skötte



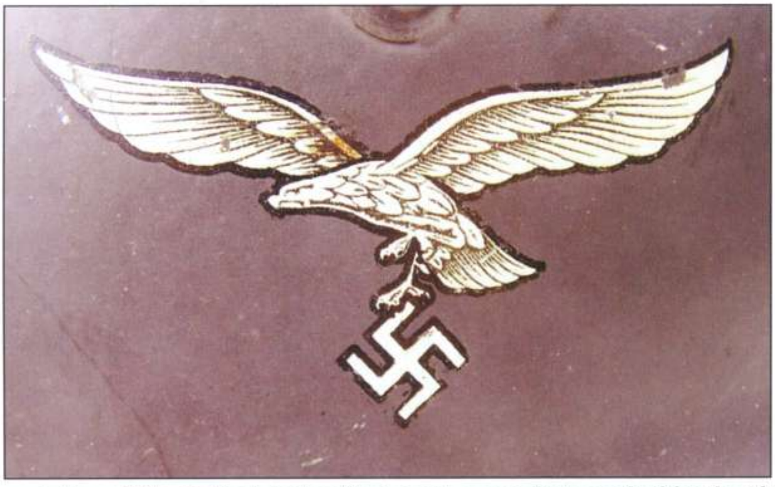
The right side of the SE-64 *Luftwaffe* helmet.



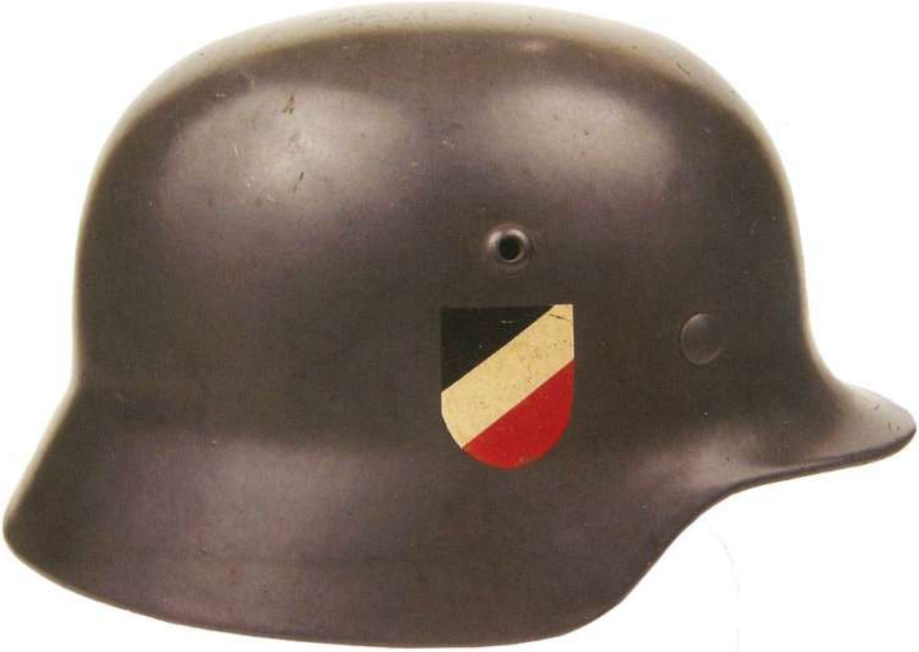
The interior of this SE-64 helmet shows the aluminum reinforced liner band which is dated 1938. The brown *Luftwaffe* issue chinstrap is like-wise dated 1938.



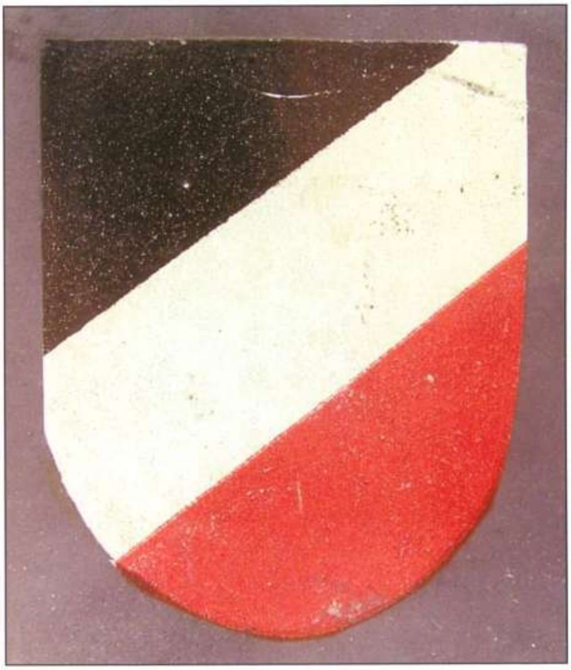
This ET-64 M35 *Luftwaffe* helmet has all matching 1938 dated components and is decorated with variant decals.



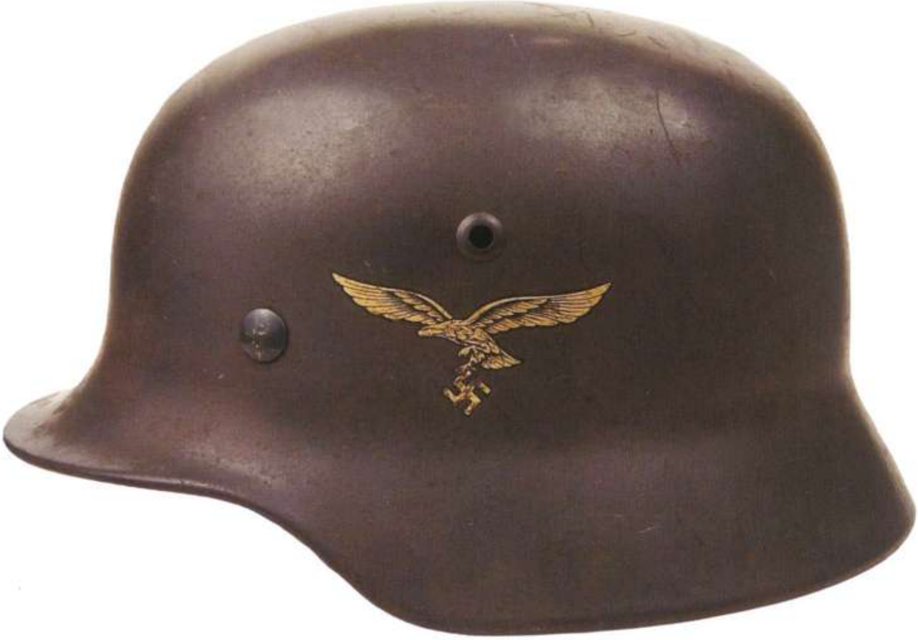
This variation of the stylized *Luftwaffe* decal is easily distinguished by the abnormally thick exterior border lines and relatively weak detail lines. It is normally found applied in conjunction with the round-bottom variant shield pictured at right.



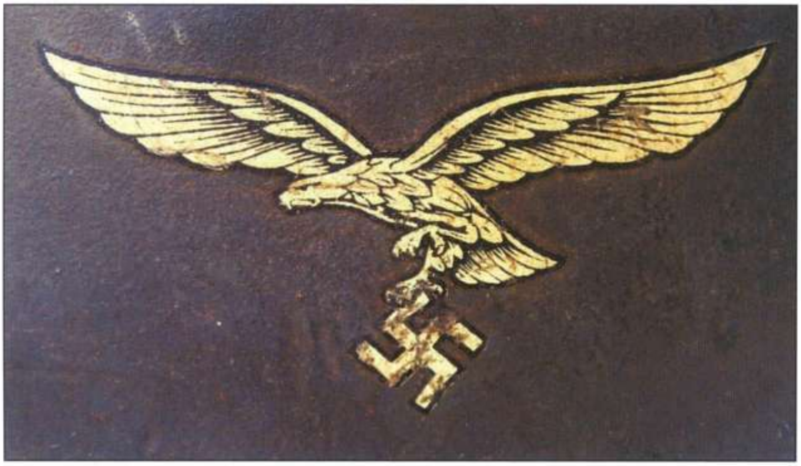
The national colors side of this ET-64 helmet shows the round-bottom variant shield.



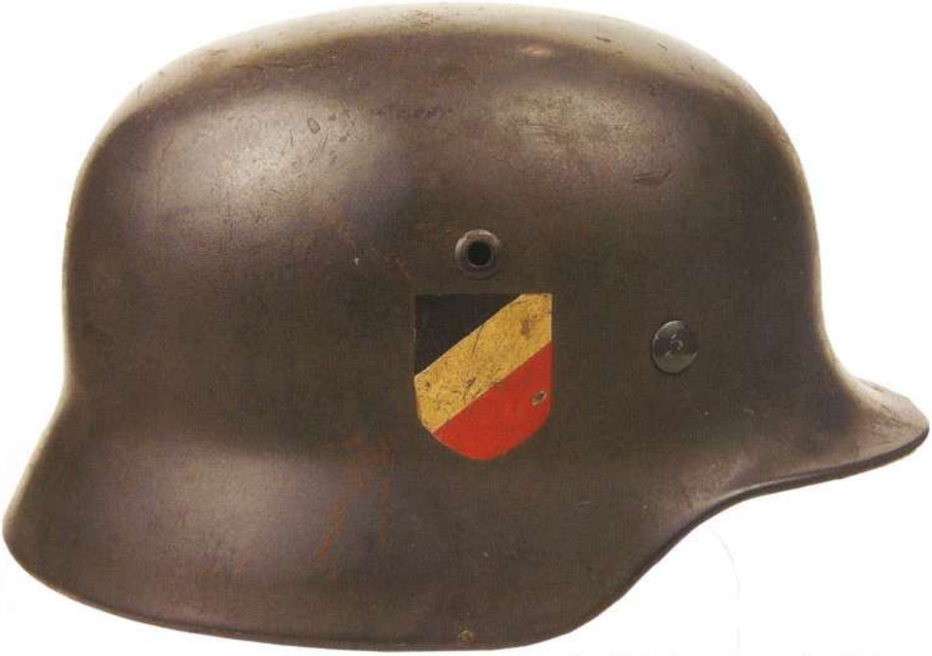
A close-up view of the round-bottom national color shield. Although this particular shield (as well as the *Luftwaffe* eagle at left) appears to be factory applied, these decals are also found on private purchase parade helmets as well as re-issues. Examples have been seen which are dated between 1936 and 1940. The factory application of such decals on a combat helmet may possibly be explained by a temporary lapse in decal supply at this particular factory.



This Q-64 *Luftwaffe* helmet is one of the last to be finished according to 1935 specifications. The components are dated 1940. The acceptance stamp on the inside dome is a non-dated type.

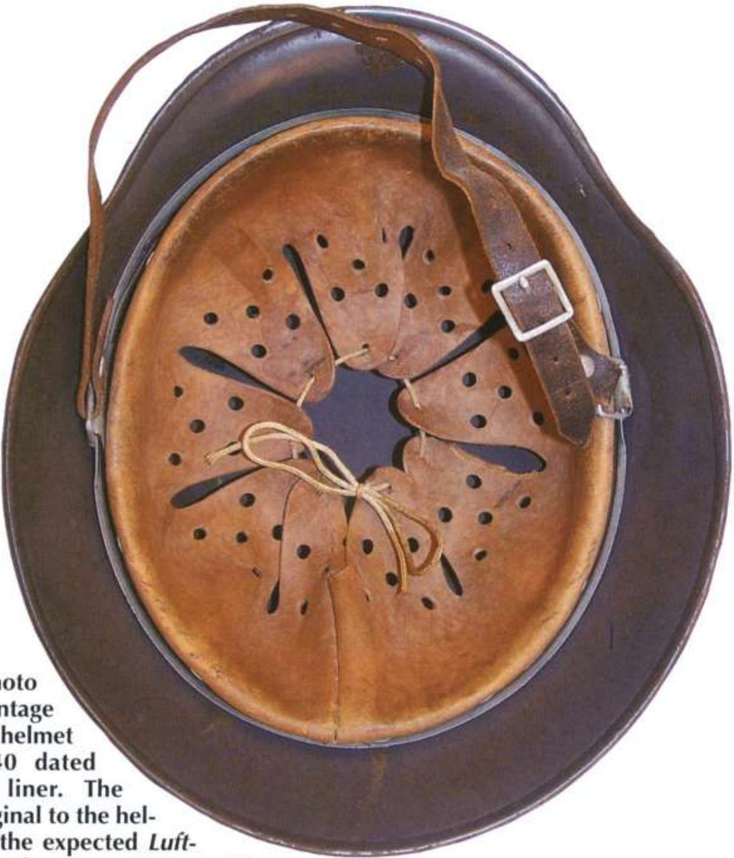


A close-up of the stylized *Luftwaffe* eagle. It is a "dot-less" variant which is found usually (but not always) on Q-manufactured helmets of 1939 or 1940 vintage. (See chapter 8 for an explanation of the difference in this variant eagle decal.)

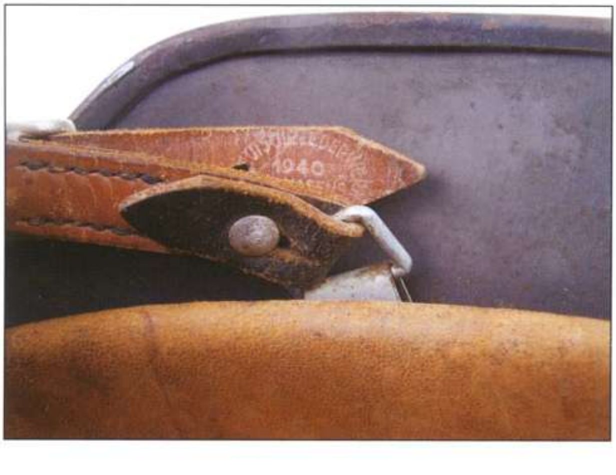


A view of the national colors side of this ET-64 *Luftwaffe* helmet. Note the slight difference in color between the shell and the split-pins. These split-pins each bear a maker mark and 1940 date.

A. Skötte



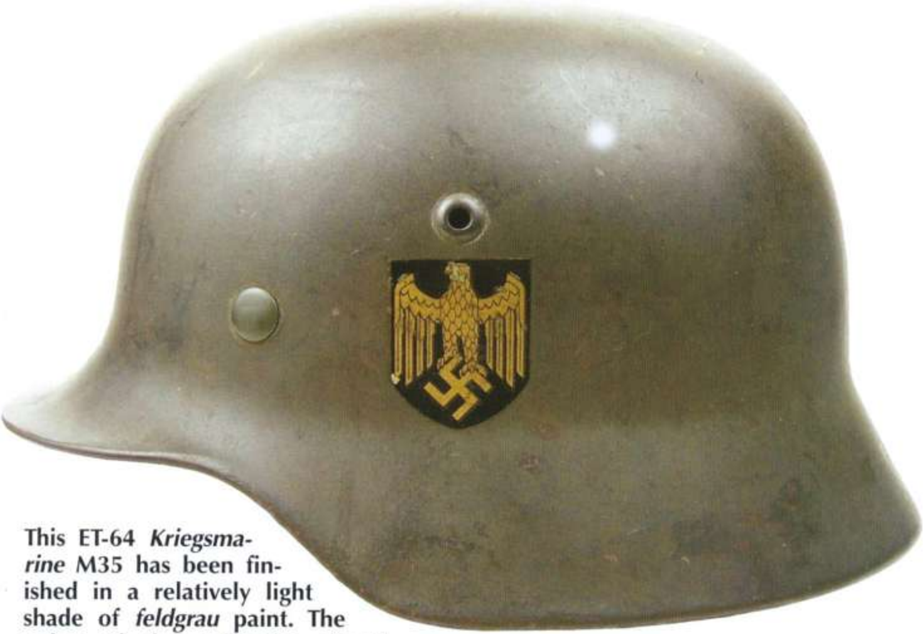
This interior photo of the 1940 vintage Q-64 *Luftwaffe* helmet shows its 1940 dated steel framed liner. The chinstrap is original to the helmet but is not the expected *Luftwaffe* brown leather type. It is at this point in helmet manufacturing that the use of brown leather *"Luftwaffe"* chinstraps was discontinued in favor of the general issue black leather types.



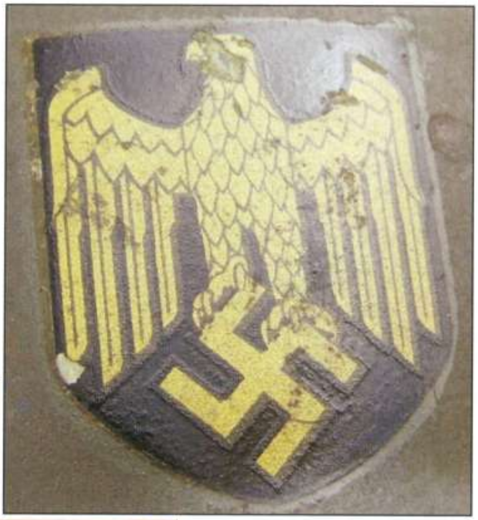
Detail photo showing the 1940 dated chinstrap found on this Q-64 *Luftwaffe* helmet. Note the rounded corners of the wire chinstrap bale.

M35 *Kriegsmarine* Helmets

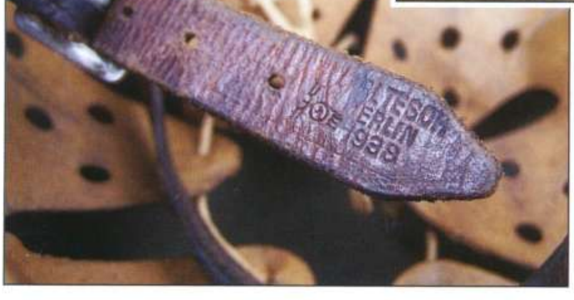
The German Navy did not stand on numeric par with the two largest service branches and thus received a significantly lower number of the new helmets. Perhaps this was reflected by a general lower priority afforded the Navy during the first years of rearmament. Certainly in the pre-war years, the *Kriegsmarine* operated relatively few land-based units which explains the number of helmets received by the naval services in the tens of thousands rather than the hundreds of thousands. Today, an unaltered specimen of a factory issued double decal *Kriegsmarine* helmet ranks as among the most difficult to find and is thus highly prized.



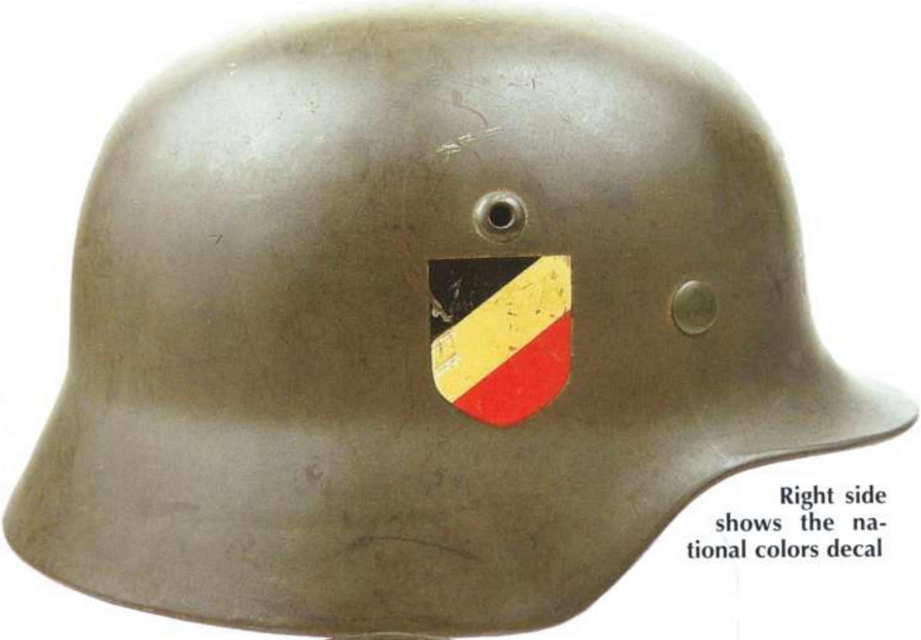
This ET-64 *Kriegsmarine* M35 has been finished in a relatively light shade of *feldgrau* paint. The color of the split-pins closely matches the color of the shell. The insignia is the classic gold eagle decal.



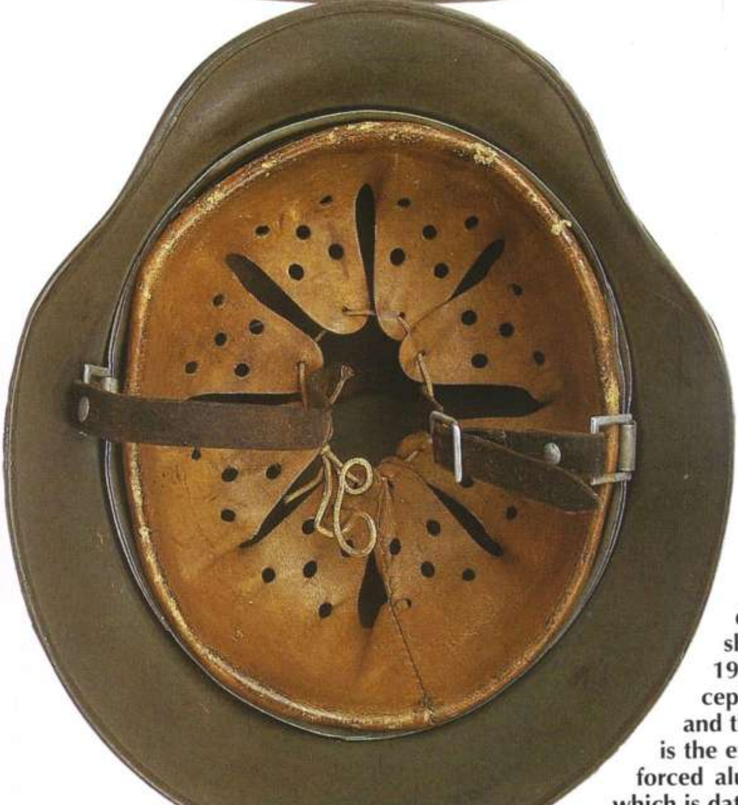
This angular view of the decal clearly illustrates the two layer effect produced by the unique decal construction method found with early *Kreigsmarine* insignias.



The chinstrap of the ET-64 *Kriegsmarine* helmet bears a maker mark and 1938 date. The chinstrap is further marked with the Eagle/M naval acceptance stamp.



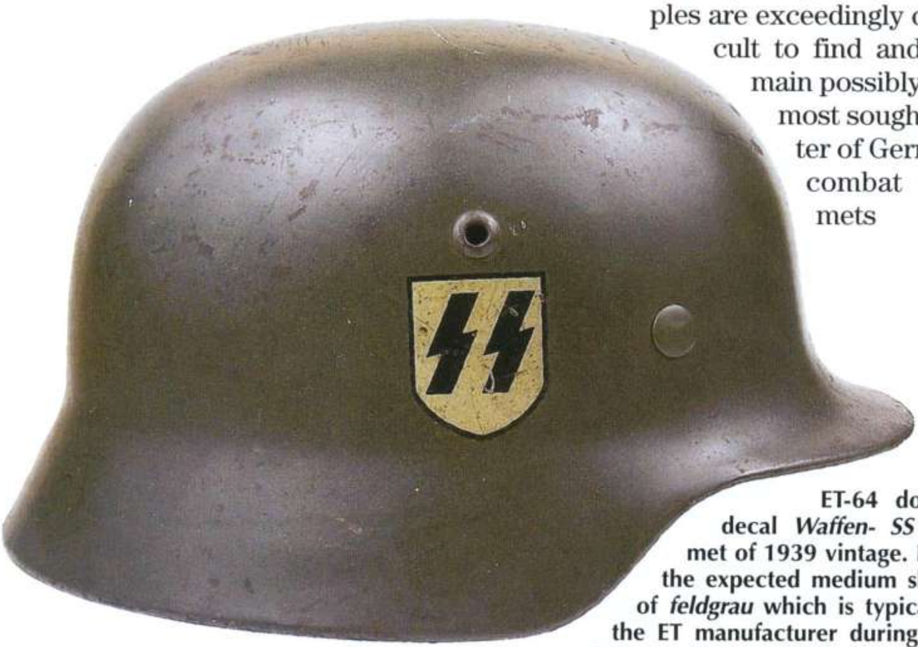
Right side shows the national colors decal



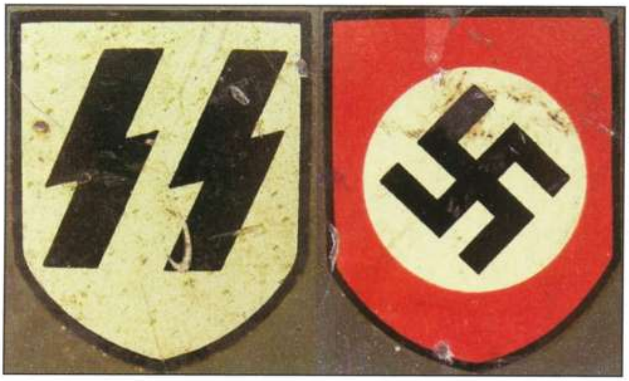
The inside dome of the shell bears a 1939 dated acceptance stamp and the liner band is the expected reinforced aluminum type which is dated 1939.

M35 SS Helmets

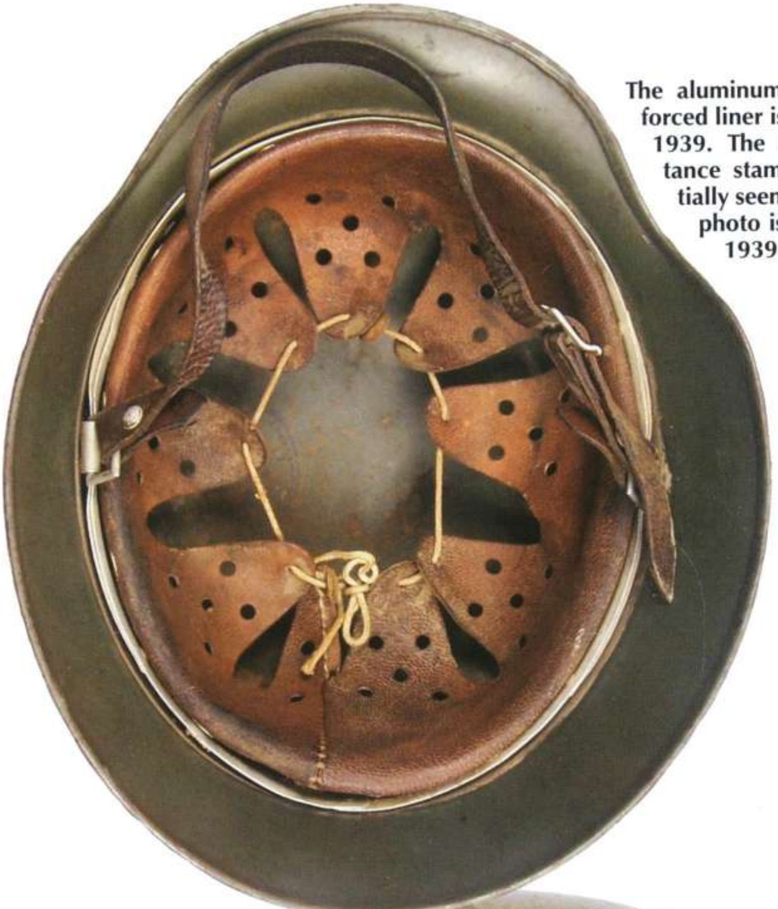
At the time of the first deliveries to the military of the M35 helmet, the SS was still considered mainly a political formation rather than a combat arm as was the *Wehrmacht.* Procurement of steel helmets was through the *"Beschaffungsamt für Heer und Marine"* (procurement office for the Army and Navy), thus the position of the SS in priority was relatively low. The *SS-Verfügungstruppe* (or "Special Purpose Troops") had been formed in 1935 as units which received combat training but came nowhere near the size of regular Army formations until just before the war. Consequently, early examples are exceedingly difficult to find and remain possibly the most sought after of German combat helmets



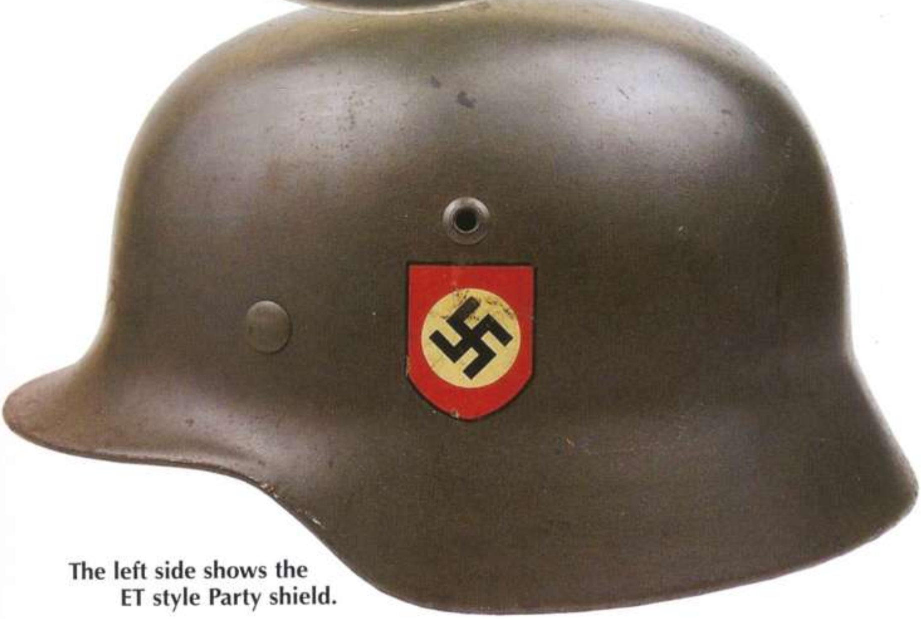
ET-64 double decal *Waffen- SS* helmet of 1939 vintage. Note the expected medium shade of *feldgrau* which is typical of the ET manufacturer during this period of helmet production.



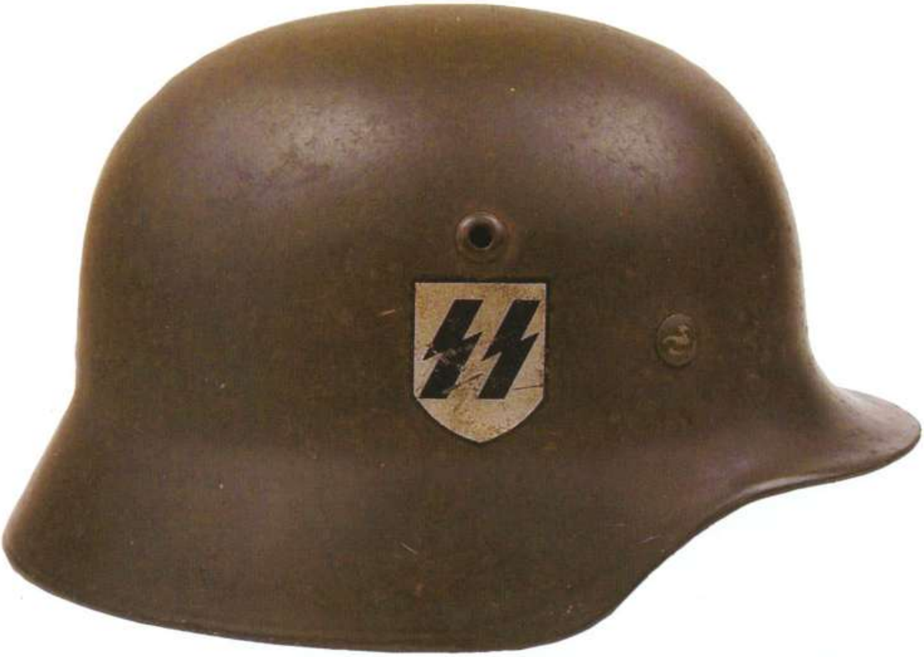
The ET style runic and Party shields found on this ET-64 helmet.



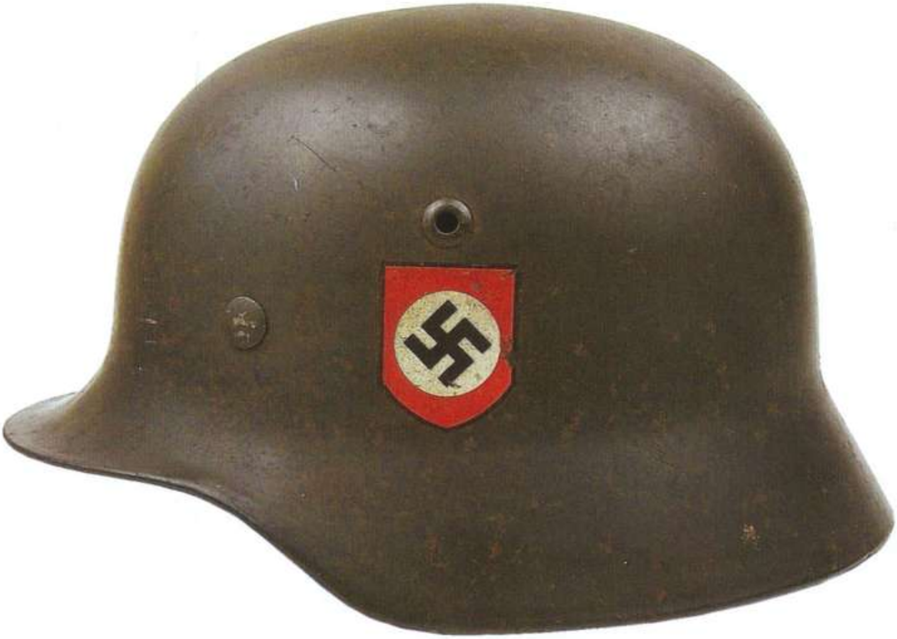
The aluminum reenforced liner is dated 1939. The acceptance stamp partially seen in this photo is dated 1939.



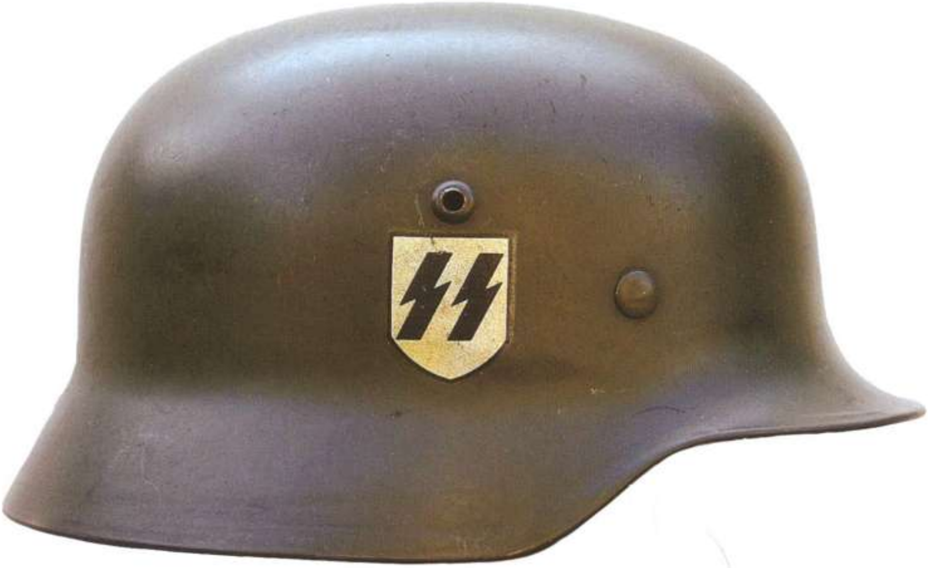
The left side shows the ET style Party shield.



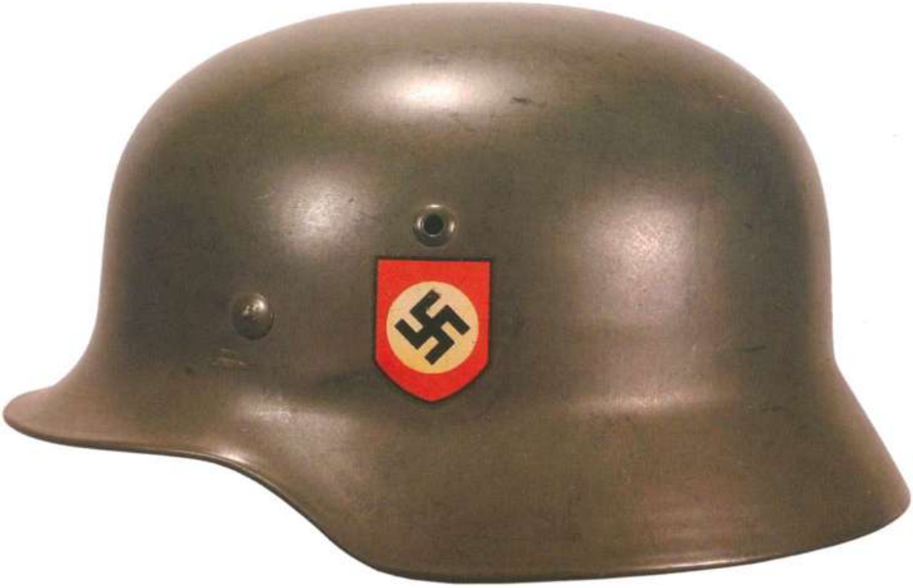
This 1938 dated Q-62 M35 helmet is factory finished in a dark shade of *feldgrau* and sports a typical Quist-pattern Runic shield.



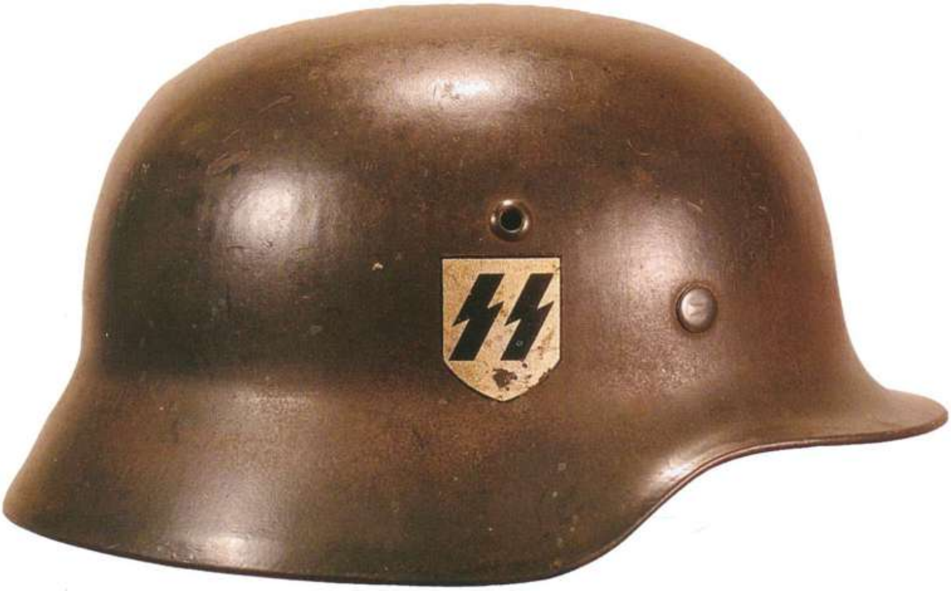
The left side of this Q produced SS helmet shows the expected deep red background on the Q-pattern Party shield.



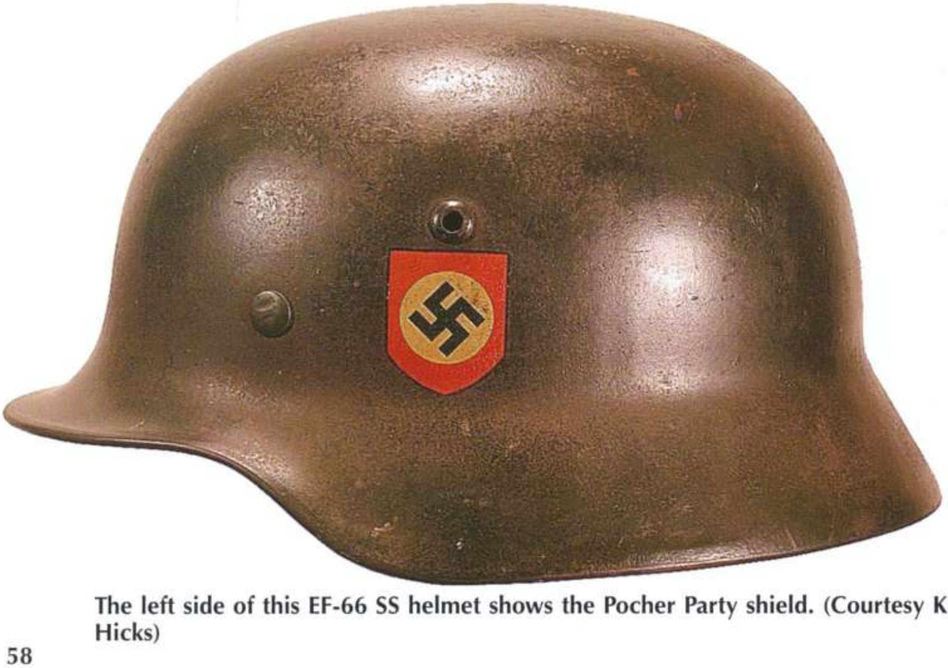
This is a near mint example of a Q-66 double decal SS helmet. The contrasting shape of the larger size helmet shell is clearly seen when compared to the Q-62 M35 pictured at left. (Courtesy K. Hicks)



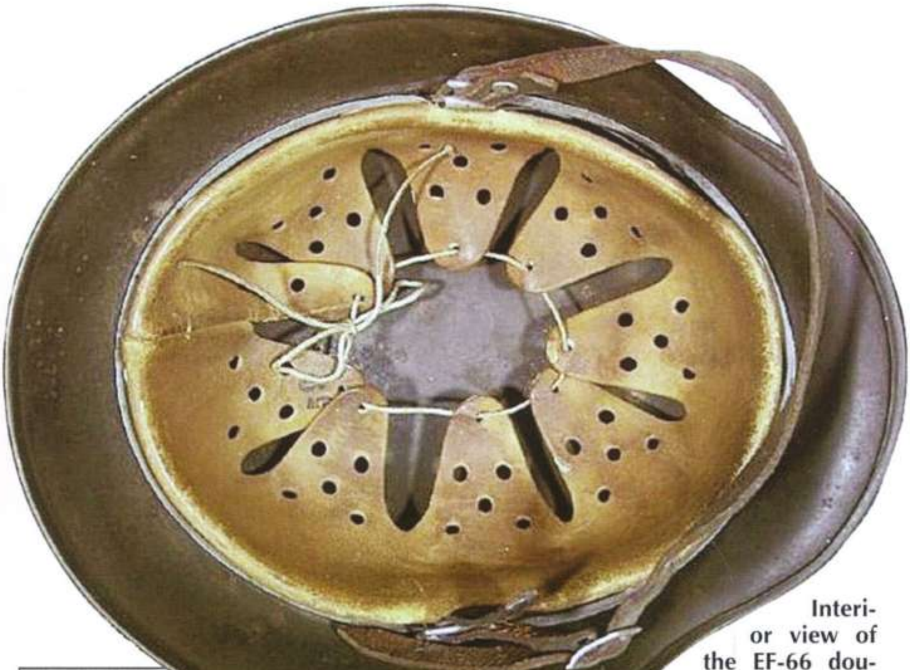
The left side of this Q-produced SS helmet shows the expected deep red background on the Q-pattern Party shield. (Courtesy K. Hicks)



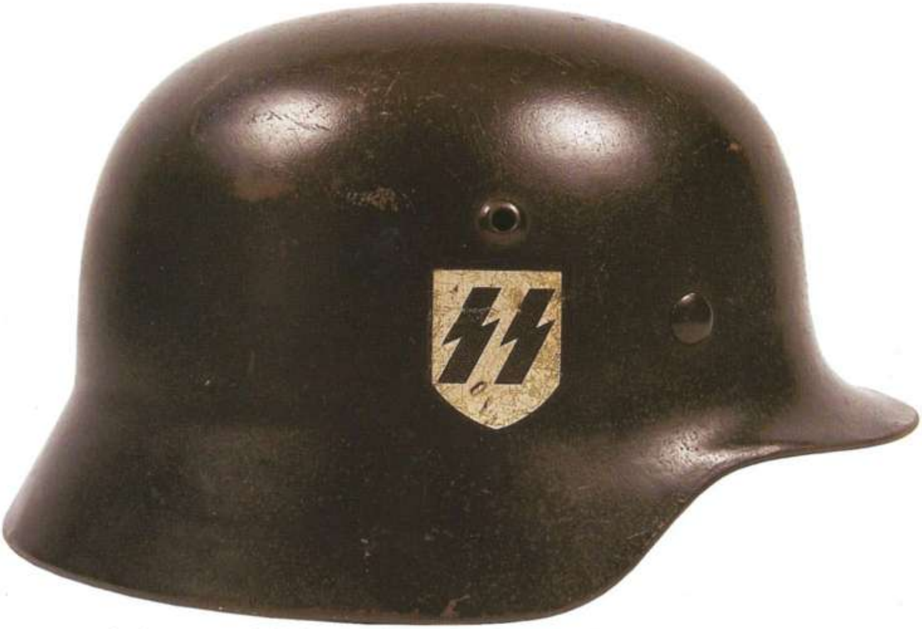
This is a rare example of an EF produced M35 SS helmet. The helmet dates to 1938. The decals are factory applied Pochers. As is the case with EF produced *Heer* helmets, no EF style SS decal was available during early production. SS decals which are specific to the EF maker are found only on post-1940 helmets. (Courtesy K. Hicks)



The left side of this EF-66 SS helmet shows the Pocher Party shield. (Courtesy K. Hicks)

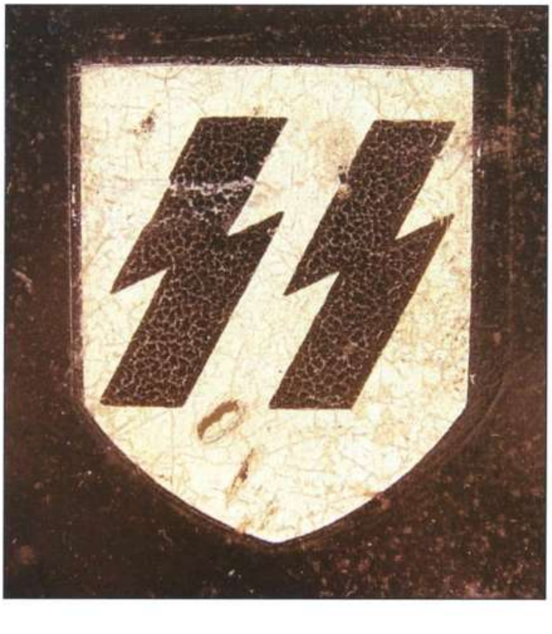


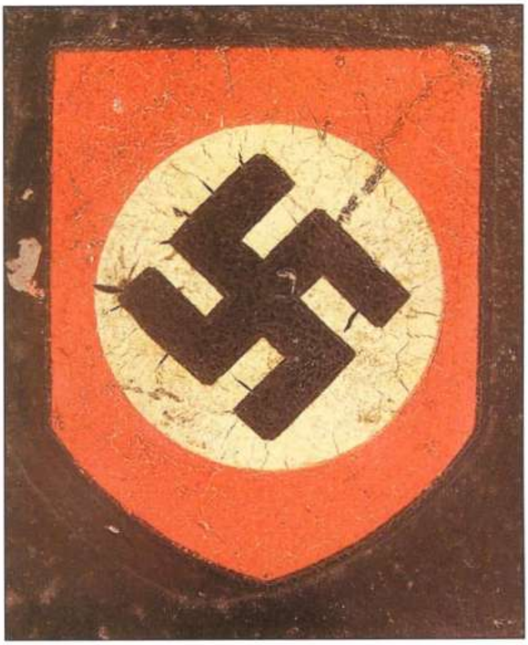
Interior view of the EF-66 double decal helmet. (Courtesy K. Hicks)



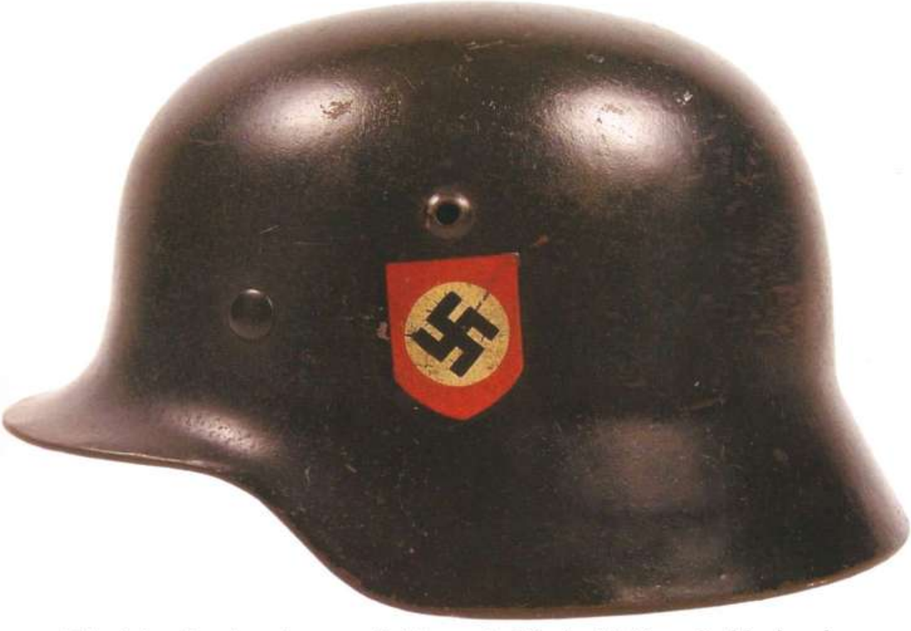
ET-64 Black SS parade helmet. Although referred to by collectors as the *"Allgemeine"* SS helmet, black helmets were a standard item used by all members of the SS for parade or dress functions prior to 1940. *Feldgrau* helmets were over-painted in satin or gloss black with C.A. Pocher "after market" decals applied over the top of the black paint. Normally there is evidence of the prior factory applied decals beneath.

This is a close-up photo of the classic C.A. Pocher decal adorning the ET-64 black parade helmet. Note the "ridge" which lines the inside borders of the runes; a typical characteristic of the Pocher manufactured insignia caused by the multi-layer construction of the decal.

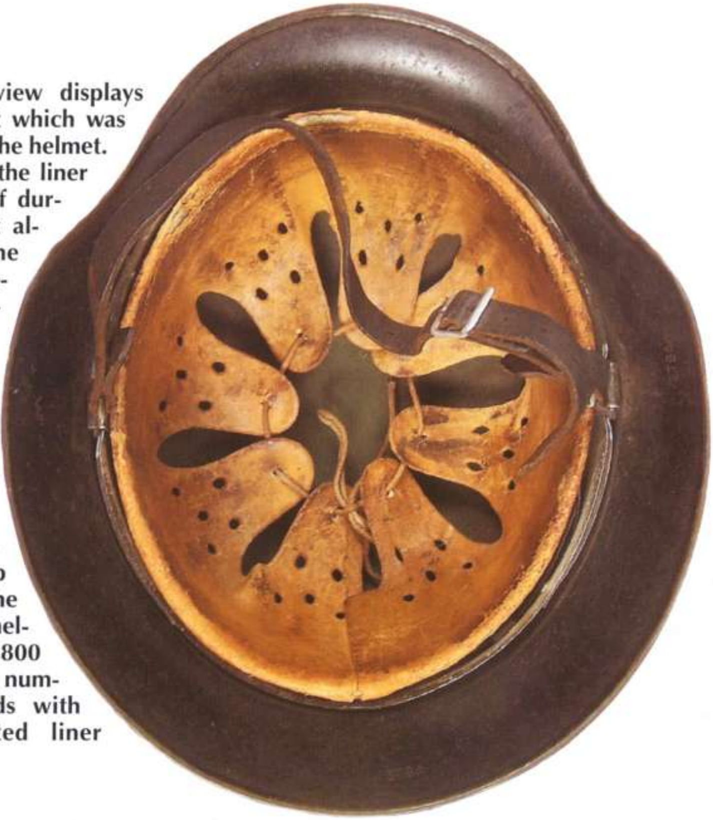




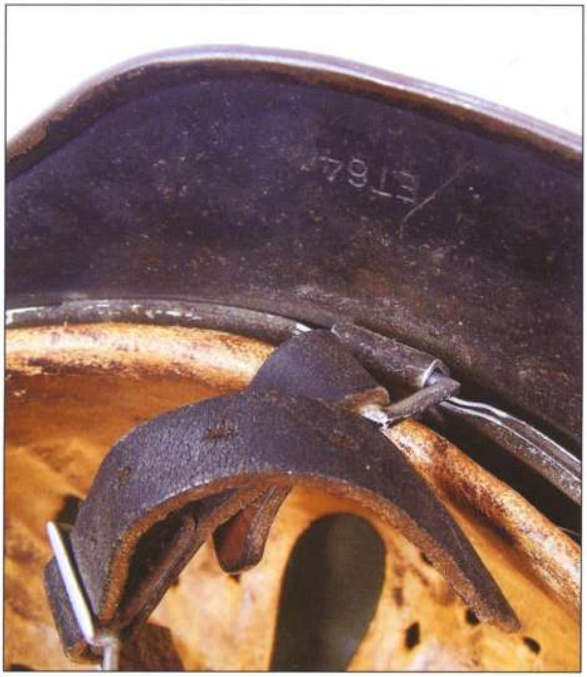
This view of the C.A.Pocher Party shield illustrates the mis-alignment with the decal under it. To the left, one can make out a small particle of the underlying decal which shows a portion of the red background of a Party shield. This indicates that the helmet was previously a *feldgrau* factory issued SS helmet.



This right side view shows a slightly canted Party shield applied by hand.



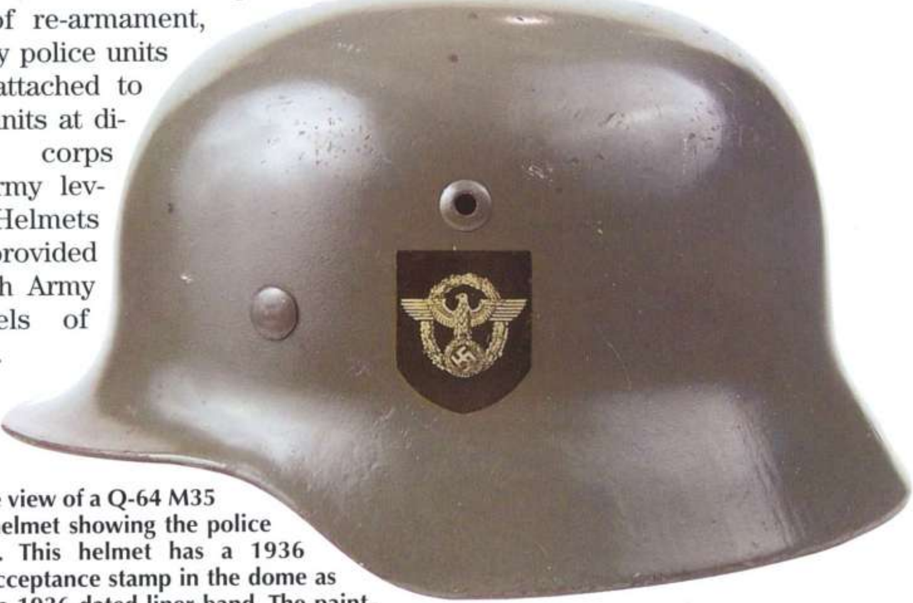
This interior view displays the black paint which was sprayed inside the helmet. The leather of the liner was masked off during the repaint although some overspray is present on the aluminum liner band. The interior dome of the helmet retains the factory applied *feldgrau* color. Although no acceptance stamp is seen inside the dome of the helmet shell, the 3800 series steel lot number corresponds with the 1938 dated liner band.



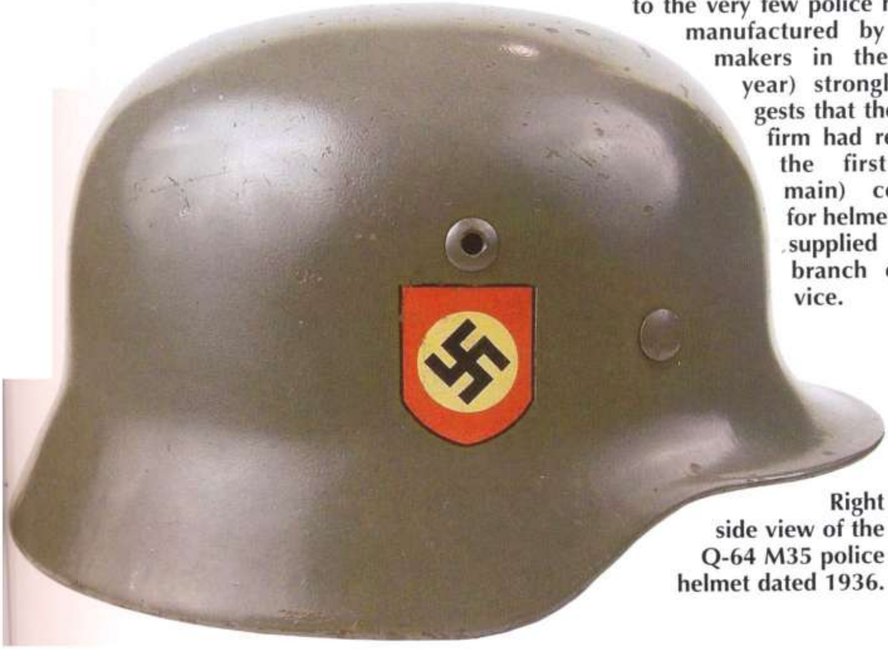
This detail photo shows the black paint over-spray on the aluminum liner band and the chinstrap bale. With few exceptions, black SS parade helmets were modified by repaint and decal application at unit level.

M35 Police Helmets

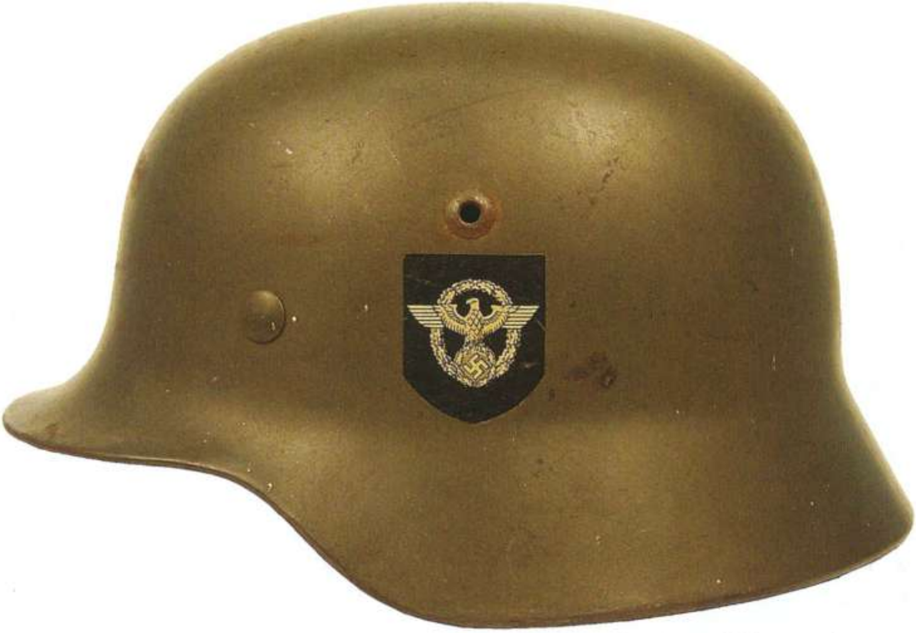
The *Feldgendarmerie* was a military organization which underwent training as infantry units but also possessed extensive police powers. From the beginning of re-armament, military police units were attached to *Heer* units at division, corps and army levels. Helmets were provided through Army channels of supply.



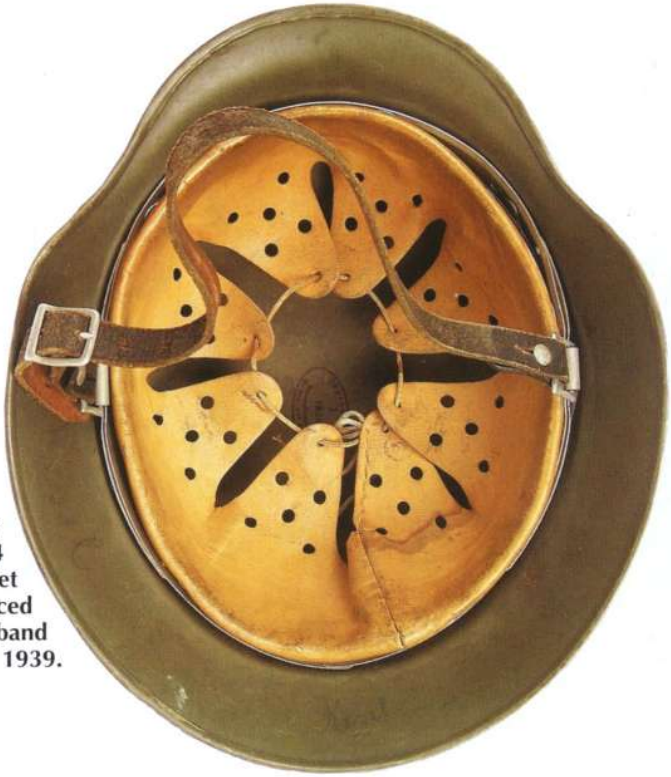
Left side view of a Q-64 M35 police helmet showing the police insignia. This helmet has a 1936 dated acceptance stamp in the dome as well as a 1936 dated liner band. The painted finish is the light shade *feldgrau* normally found on the earliest Q-produced helmets. The number of 1936 dated Q-manufactured police helmets (as opposed to the very few police helmets manufactured by other makers in the same year) strongly suggests that the Quist firm had received the first (and main) contract for helmets to be supplied to this branch of service.



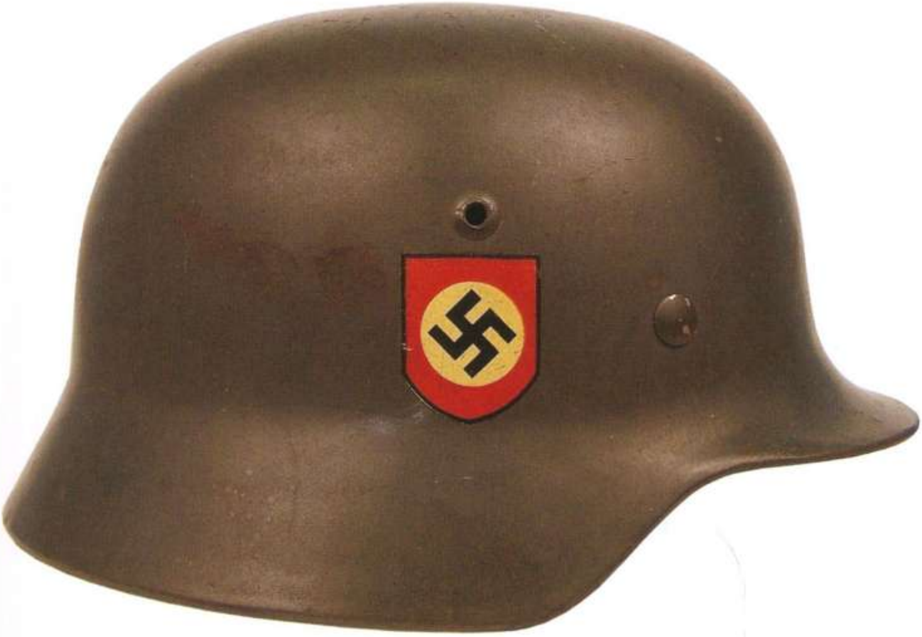
Right side view of the Q-64 M35 police helmet dated 1936.



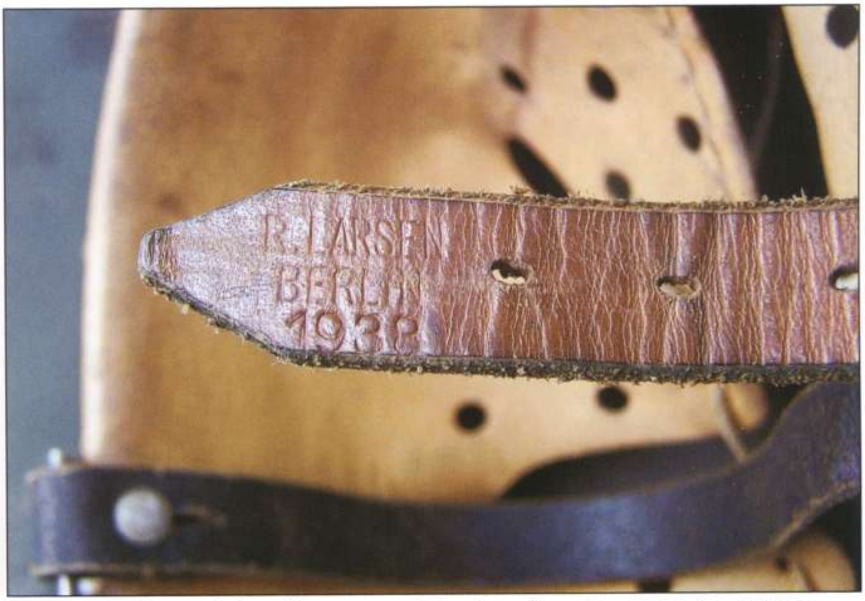
This ET-64 M35 police helmet is finished in a medium shade of *feldgrau* paint as commonly seen on helmets produced at the Eisenhutten plant in Thale (Courtesy K. Kithier)



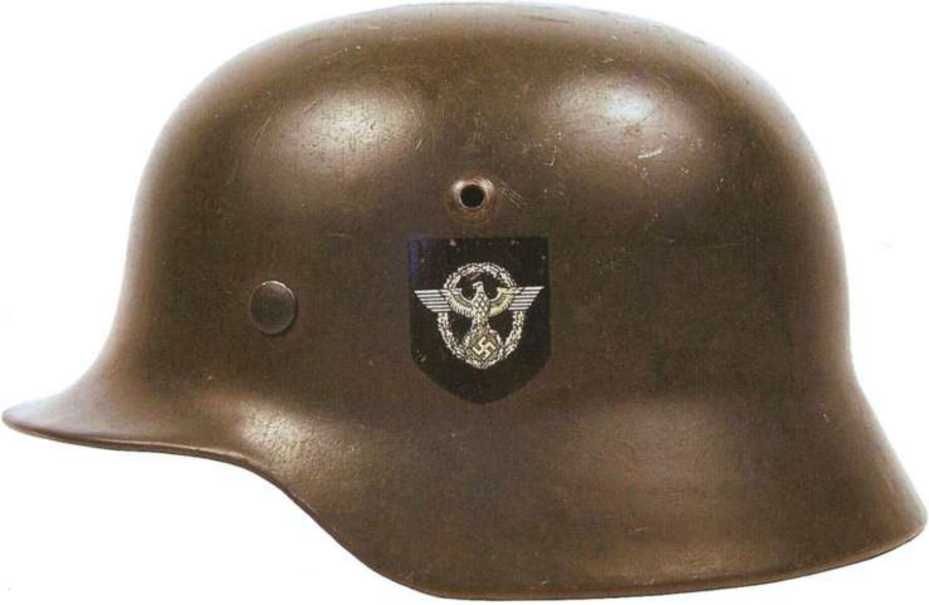
The interior photo of the ET-64 M35 police helmet shows a reinforced aluminum liner band which is dated 1939.



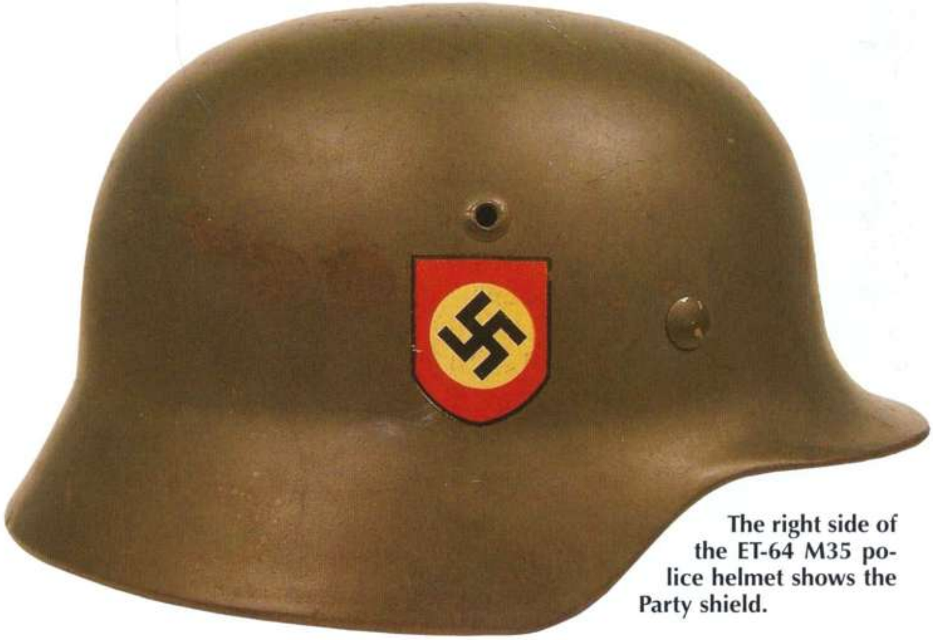
This right side view of the ET-64 M35 police helmet further shows the painted finish as well as the closely matching paint found on the split-pins.



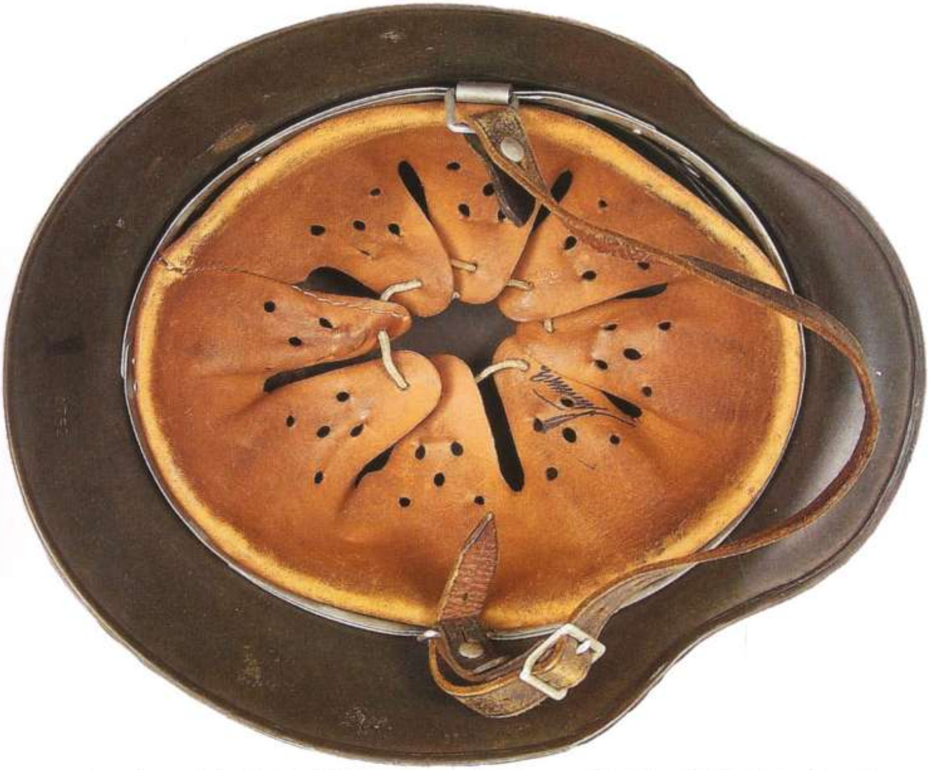
A close-up photo of the chinstrap marking found on the 1939 dated ET-64 police helmet. The manufacturer, R. Larsen, was a major supplier of leather goods for civil police as well as Gendarme units. Due to the number of Larsen-produced chinstraps found on police helmets, it is likely that the chinstraps were procured from this maker through police supply offices rather than the helmet manufacturer.



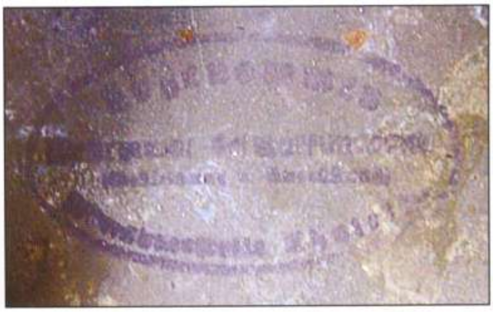
Another example of an ET-produced M35 police helmet. This helmet is dated 1940 and is among the last M35s to be produced. It is finished in an unusually dark shade of smooth texture paint which differs from paints used on ET-produced *Heer/Kriegsmarine* helmets of the period, yet is the same as other 1940 dated ET-produced police helmets. This strongly suggests that the Eisenhutten plant used specific "Police *feldgrau*" paint for the police helmets contracted to be manufactured during this time.



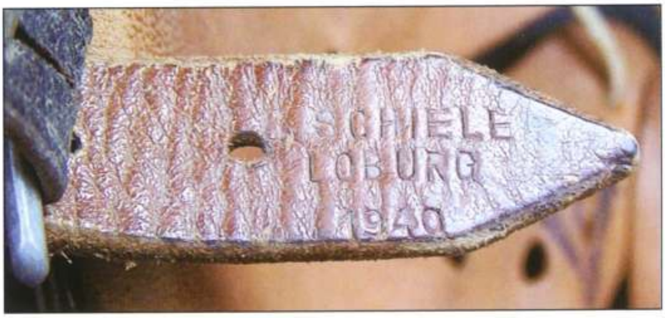
The right side of the ET-64 M35 police helmet shows the Party shield.



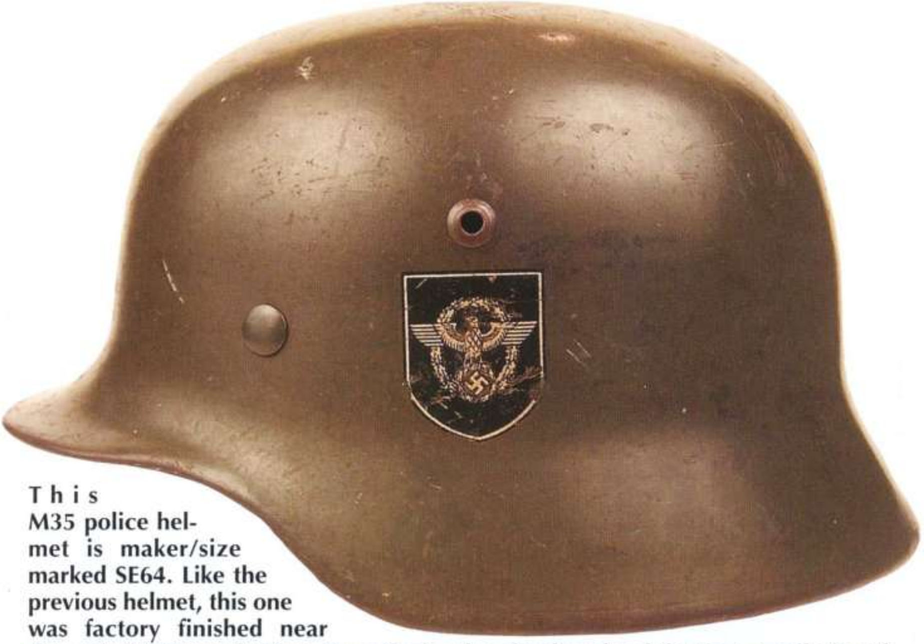
Interior view of the ET-64 M35 police helmet assembled in 1940. Note the aluminum framed liner which is dated 1940. There is a non-dated acceptance stamp inside the dome.



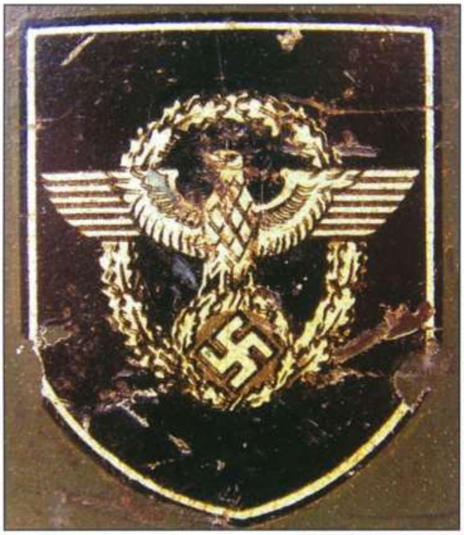
A close-up view of the acceptance stamp found on this ET-64 police helmet. It is the post-1940 style which does not include the specific year of manufacture. The bottom line reads *"Abnahmenstelle Thale/Harz"* and thus is identified as an ET "maker-specific" ink stamp.



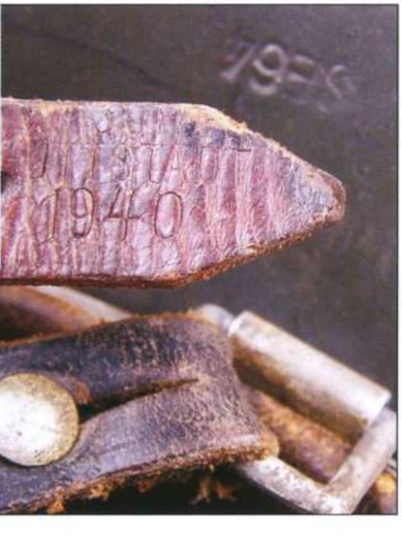
Close-up view of the 1940 dated chinstrap found on this ET-64 helmet.



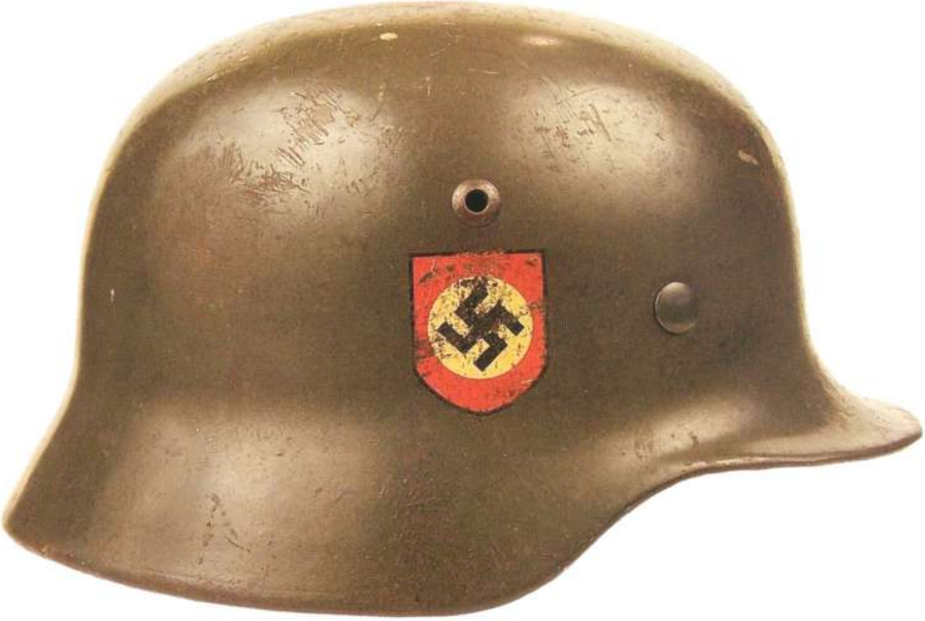
This M35 police helmet is maker/size marked SE64. Like the previous helmet, this one was factory finished near the end of M35 production. Note the bordered police decal that is normally found on model 40 helmets.



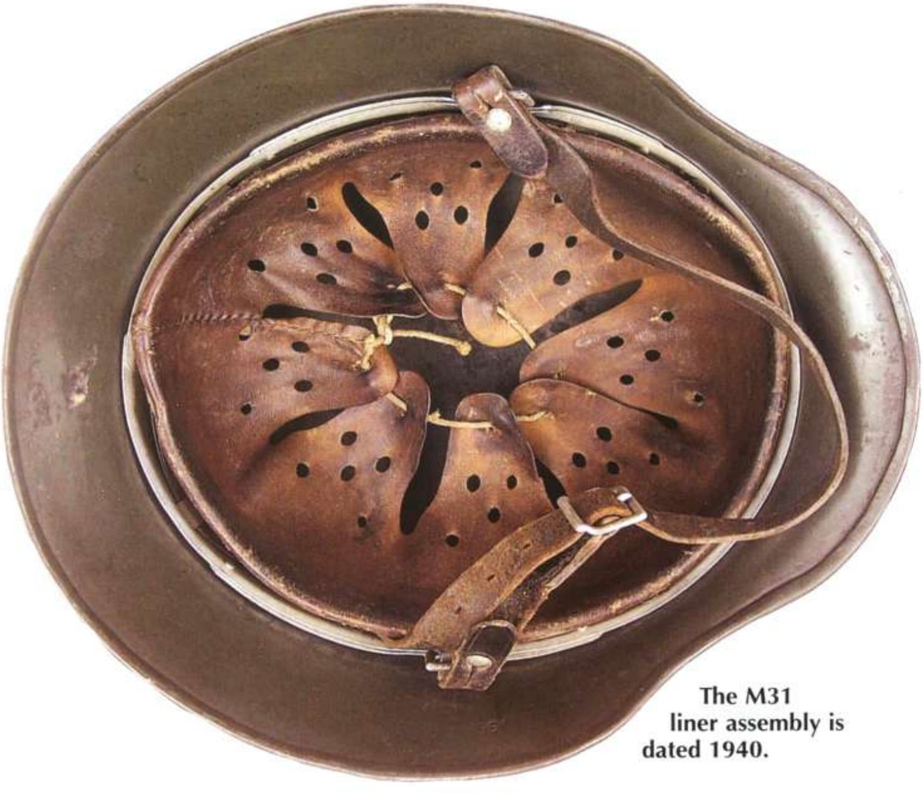
Close-up view of the bordered decal which first appeared on SE produced helmets as part of its large 1940 contract.



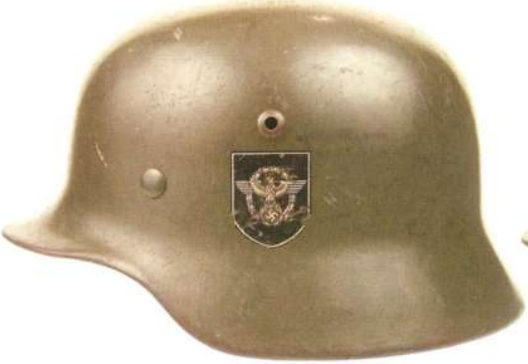
This close-up view shows the 1940 dated chinstrap as well as the sharp cornered non-chamfered chinstrap bale.

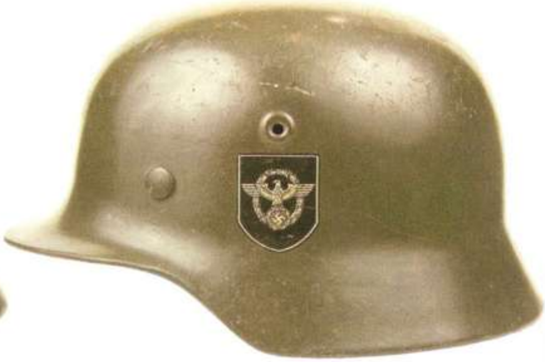


The right side of this helmet shows the Party shield and the closely matched paint of the split-pins

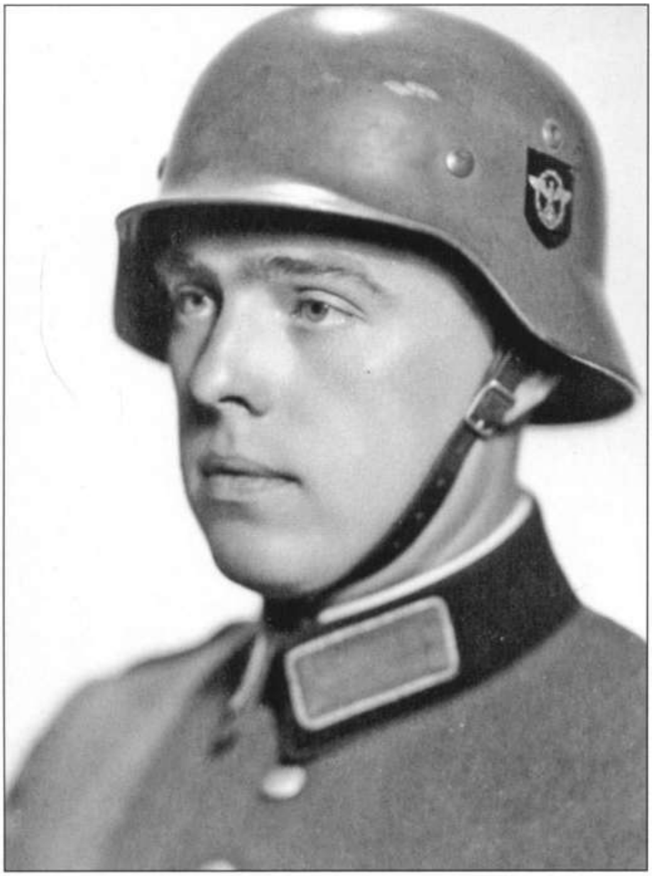


The M31 liner assembly is dated 1940.



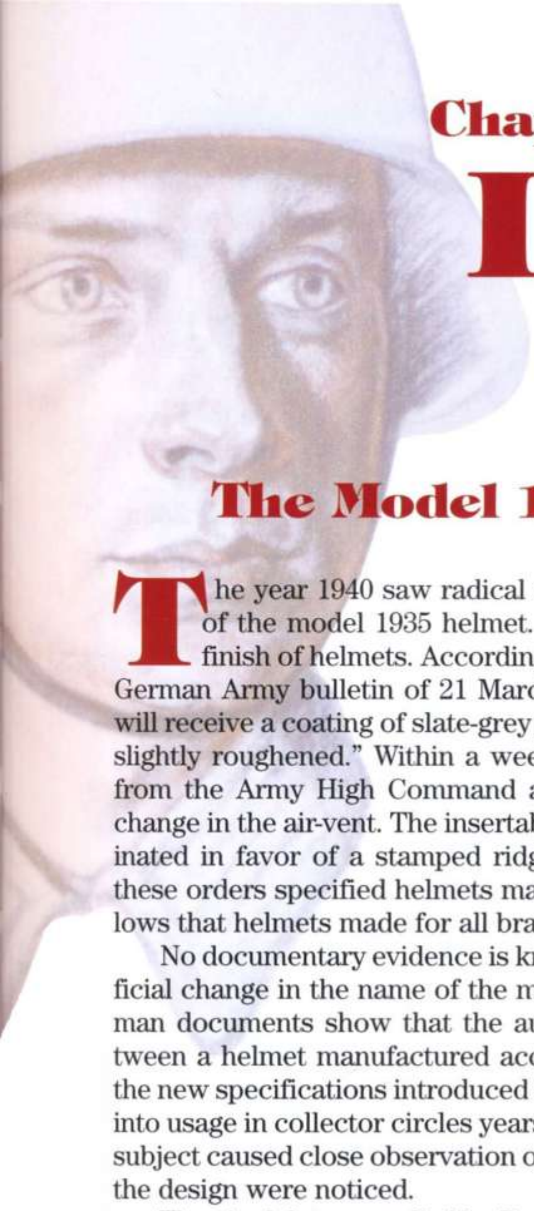


Above are two SE police helmets; the left being an M35 and the right being an M40. Note the similarity of the finish on both helmets. In 1940 it appears that the SE factory produced a large run of police helmets (The majority of SE police helmets date to this period). A special "smooth texture police grey-green" was developed and applied to SE-produced helmets of both models. This is the only instance where one will repeatedly find M35 and M40 helmets factory finished with the same color and texture paint.



Otto Spronk Photo Collection

This police enlisted man wears an M35 police helmet which is likely from the 1936 Quist contract due to the appearance of the painted finish.



Chapter II

The Model 1940 Helmet

The year 1940 saw radical changes in the overall appearance of the model 1935 helmet. The first change was the painted finish of helmets. According to Baer, it was announced via the German Army bulletin of 21 March 1940 that "helmets of the Army will receive a coating of slate-grey paint, the exterior of which will be slightly roughened." Within a week following, on 26 March a letter from the Army High Command announced that there would be a change in the air-vent. The insertable air-vent bushing was to be eliminated in favor of a stamped ridge around each air-vent. Although these orders specified helmets made under order of the Army, it follows that helmets made for all branches would be thus affected.

No documentary evidence is known to exist that designates an official change in the name of the model of the helmet. Surviving German documents show that the authorities made no distinction between a helmet manufactured according to 1935 specifications and the new specifications introduced in 1940. The term "Model 40" came into usage in collector circles years after the war when interest in the subject caused close observation of specific examples and changes in the design were noticed.

The cited dates supplied by Baer tell us when the orders specified these changes. Presumably these changes were to take effect as soon as practically possible. It stands to reason that the changes in the finished products of each helmet manufacturer would have taken weeks or months to put into effect. This time may have varied among the five manufacturers depending upon the abilities of each plant to alter and/or replace tooling. No specific date can therefore be determined as to when the last M35 was produced or when the first "M40" was accepted through the procurement offices.

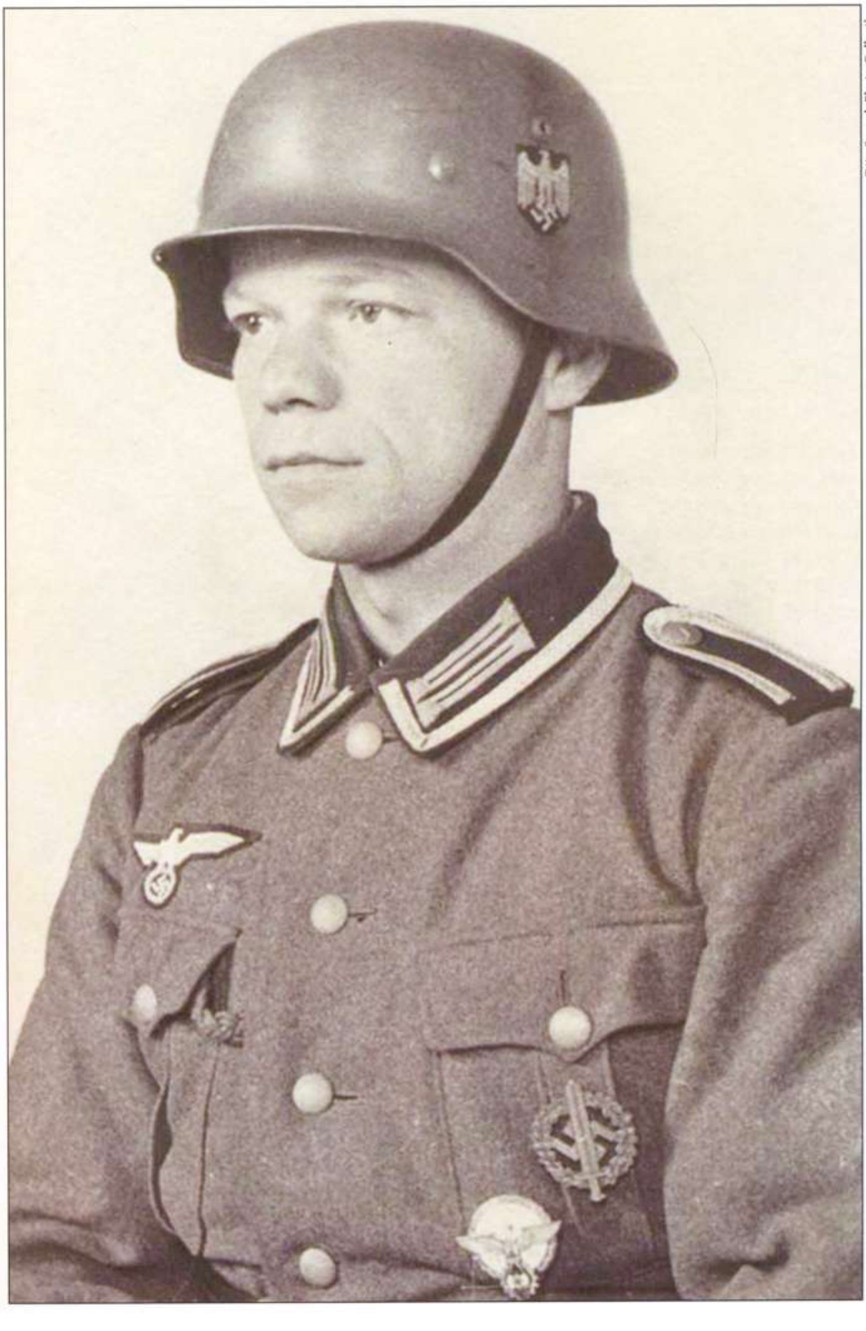
Surviving examples of "transitory" Model 35 helmets exist in such numbers as to suggest that this change did not occur immediately. Commonly found are Model 35 helmets with air-vent bushings whose shells are factory finished in rough texture paint. This leads one to assume that stocks of left-over model 35 shells were completed according to the new specifications for the finish. Conversely, a Model 40 is rarely found which was finished with smooth texture paint for issue to either the *Heer*, *Luftwaffe*, *Kriegsmarine* or *Waffen-SS*.

The application of insignia also underwent changes during this period. The same bulletin of 21 March, 1940 which announced the change of the painted finish, also brought the order to eliminate the national color shields from Army, Navy and *Luftwaffe* helmets as well as the Party shield from helmets of the *Waffen-SS*. Rare examples exist of helmets bearing both the service branch and national colors/Party insignia, yet are painted with the textured paint. This tells us that there was at least a brief period of time that elapsed during this transitional phase between Model 35 and Model 40 specifications as pertaining to insignia application.

There are other changes that occurred to the Model 35 helmet during this period that are not mentioned in any known documents. Since the beginning of production of the Model 35 helmet, the manufacturers had been installing the Model 31 liner assemblies which consisted of a leather liner attached by brads to a thin steel band which was framed by an outer band made from aluminum. Heretofore, the only change in this liner system was the addition of a re-enforcing aluminum strip added along both sides sometime in late 1937 or early 1938. (See Appendix 2.) Although original examples of helmets are seen with this liner bearing dates as late as 1943, the majority of helmets produced as per 1940 specs are found with liners framed in a steel, single-ply outer band. Model 35 helmet shells are found that have been completed in a single decal and textured paint configuration and that have been fitted with the new wartime steel-framed liner assembly. The purpose of the new steel-banded liner may have been to conserve aluminum for other wartime purposes or could have been for the purpose of adding strength to a high-stress portion of the liner system. Indeed, both of these factors may have been the reason for the change.

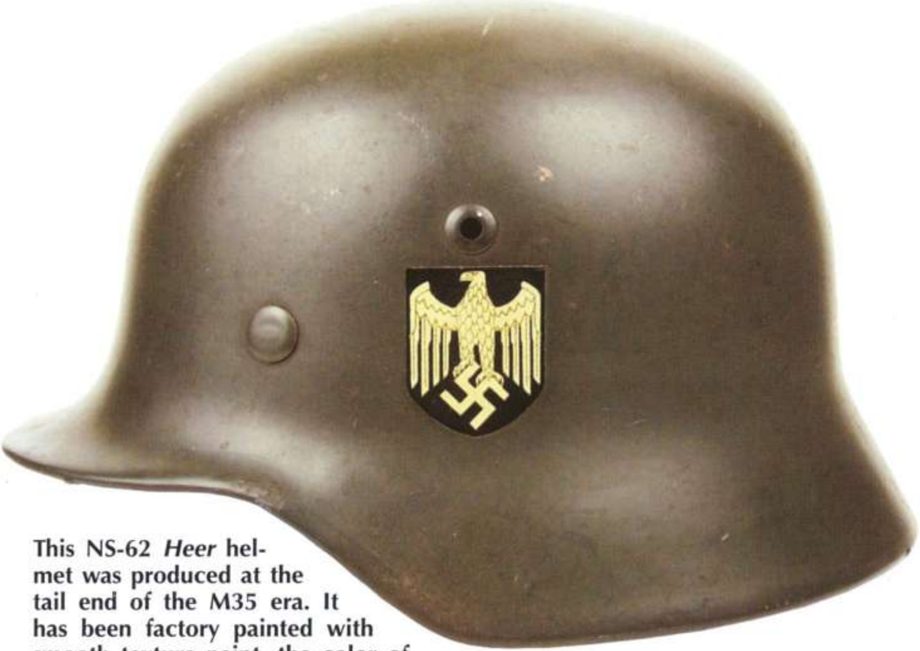
The final change to be addressed is the appearance of the acceptance stamp found inside the dome of many examples of steel helmets. At some point late in 1939 or early in 1940 the use of the date (and in most cases, the Roman numeral) was discontinued in the markings found in these acceptance stamps. There are helmets found that have 1939 dated liners, chinstraps and even split-pins yet have a dome stamp with no date. Therefore, it can be inferred that the practice of dating the acceptance stamps was halted in 1939. Helmets with 1940 dated components will have a dome stamp that is un-dated. No original 1940 dated dome stamp is known by this author to have been observed. Once again, there is no documented evidence that tells us when the date was eliminated from the dome stamp but observation of surviving examples strongly suggests the cut-off to be sometime in late 1939.

Thus the year 1940 brings about the first and most drastic changes in the appearance of the German combat helmets. The following chapter will show some of the more interesting examples.

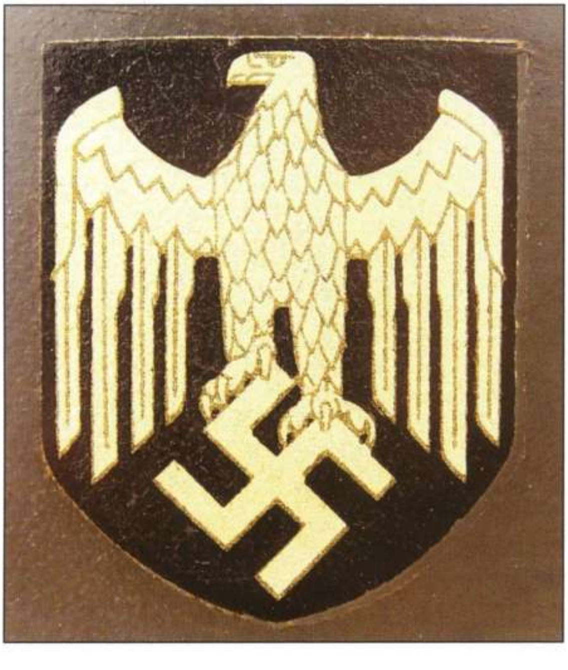


Otto Spronk Photo Collection

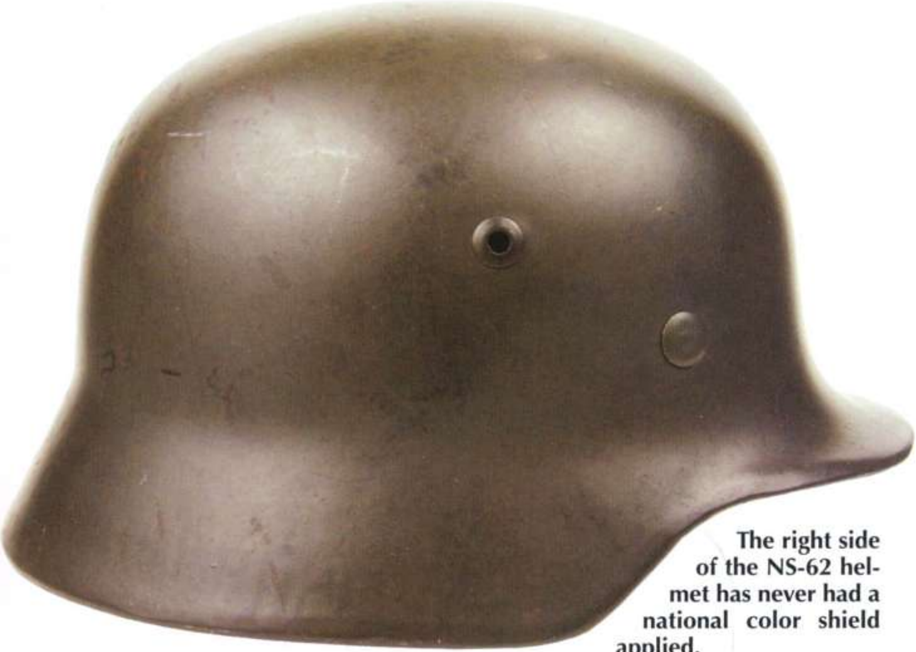
Heer Helmets of 1940 Specifications.



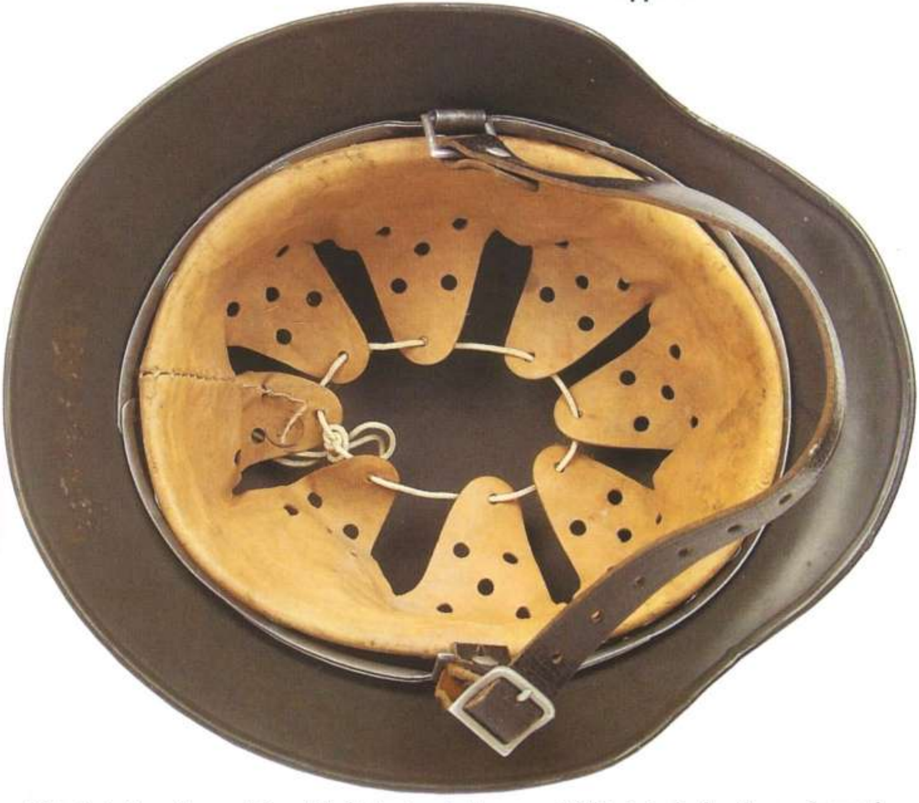
This NS-62 *Heer* helmet was produced at the tail end of the M35 era. It has been factory painted with smooth texture paint, the color of which is the dark shade normally seen on NS helmets. A single eagle decal was applied to the left side. It appears to be in factory mint condition.



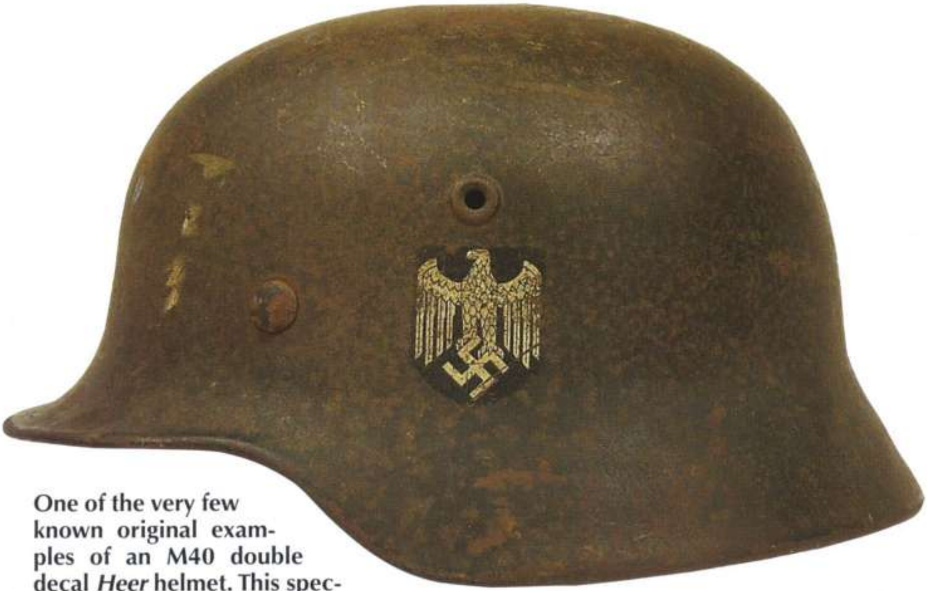
The Army eagle decal is in pristine condition and is the type normally found on NS produced helmets.



The right side of the NS-62 helmet has never had a national color shield applied.

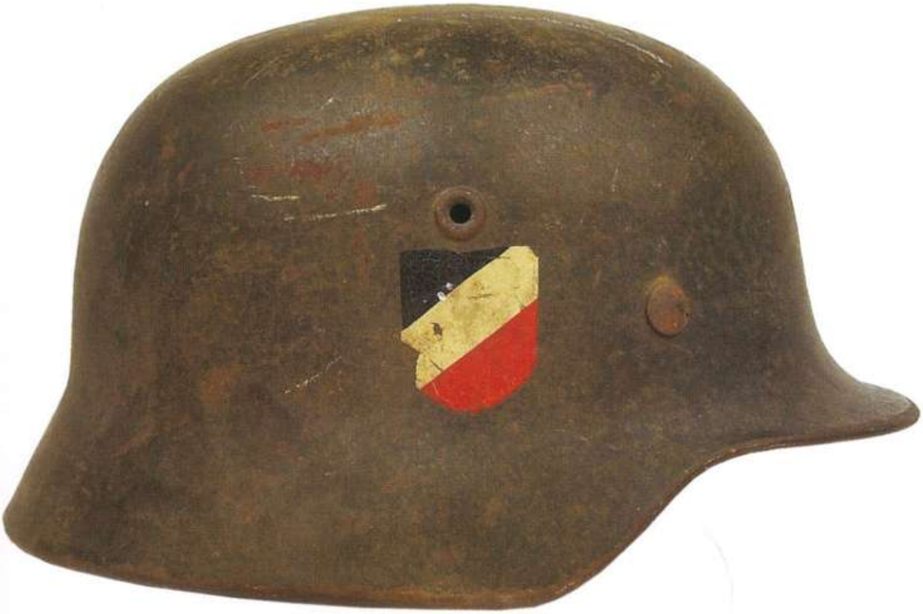


This interior view of the NS-62 helmet shows a 1939 dated aluminum framed liner and chinstrap hardware. The acceptance stamp is the non-dated version.

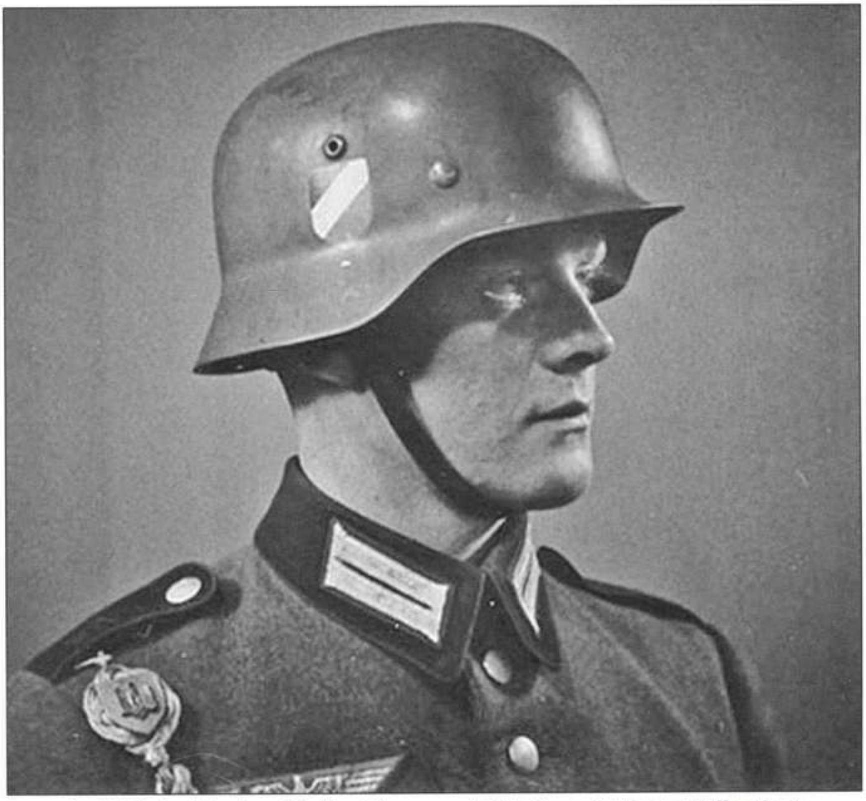


One of the very few known original examples of an M40 double decal *Heer* helmet. This specimen is an ET 64 shell that has been factory finished in M40 specified textured paint and both *Heer* decal and national colors have been factory applied. (Courtesy T. Kibler collection)

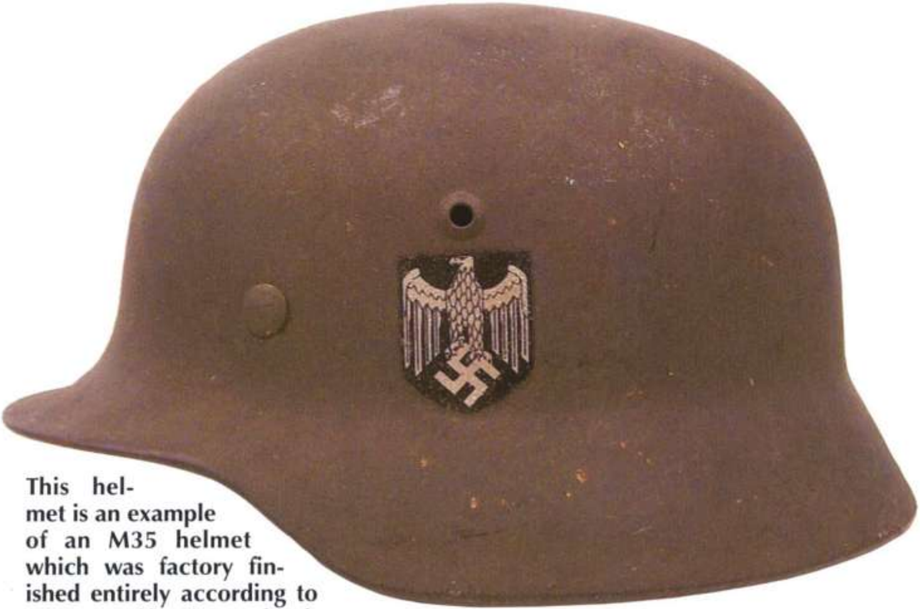
This color portrait shows a young man in wartime uniform wearing an M35 helmet that has been either factory finished to 1940 specifications or was later modified to 1940 specs and re-issued. Note the textured finish of the paint.



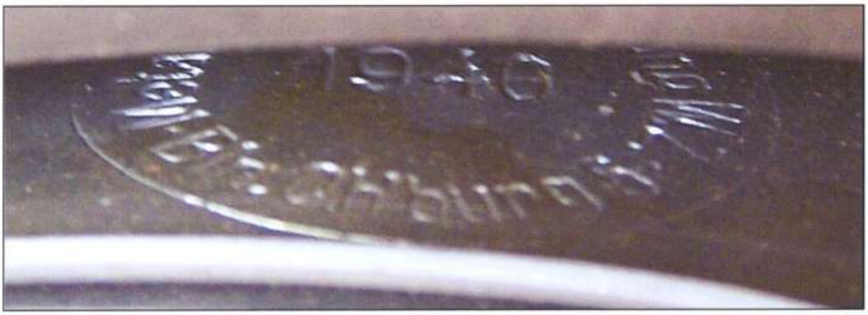
The right side shows the national colors decal which has been factory applied over the M40 textured paint. (T. Kibler collection)



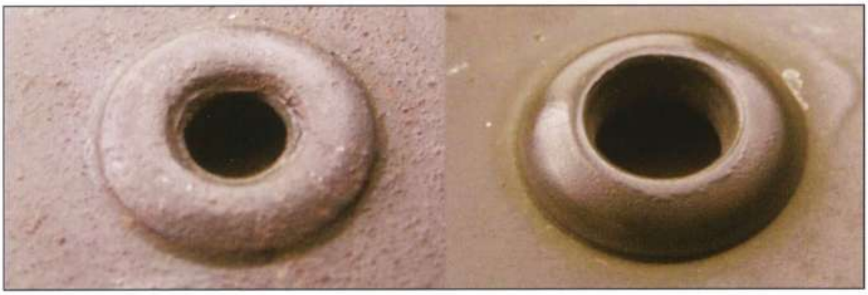
An M40 double decal helmet in wear. (Otto Spronk Photo Collection)



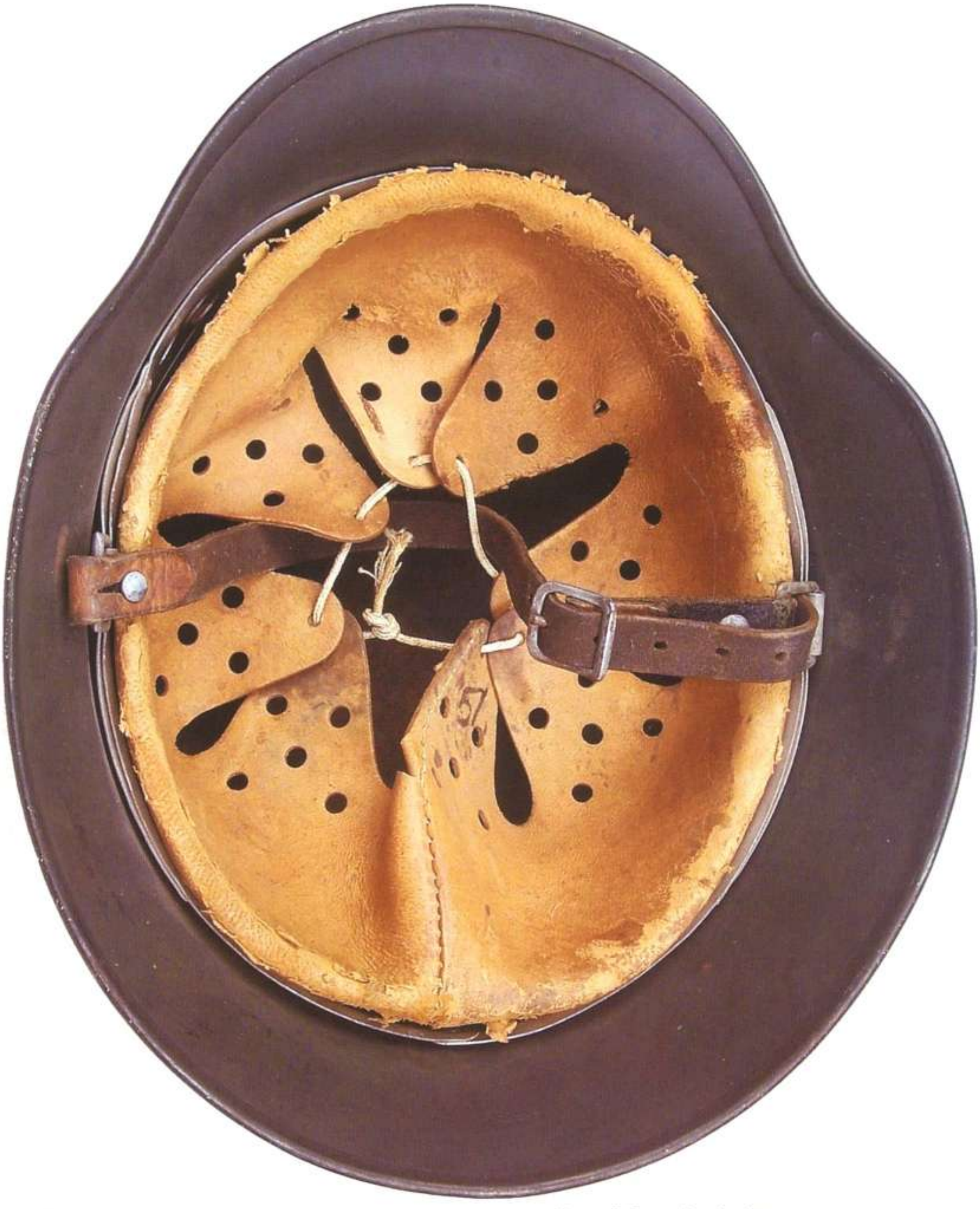
This helmet is an example of an M35 helmet which was factory finished entirely according to 1940 specifications. The factory applied paint of this Q-64 shell is darker and greyer in appearance. Texture has been added to the paint via aluminum oxide powder and no national color decal has been applied. (Courtesy K. Kithier)



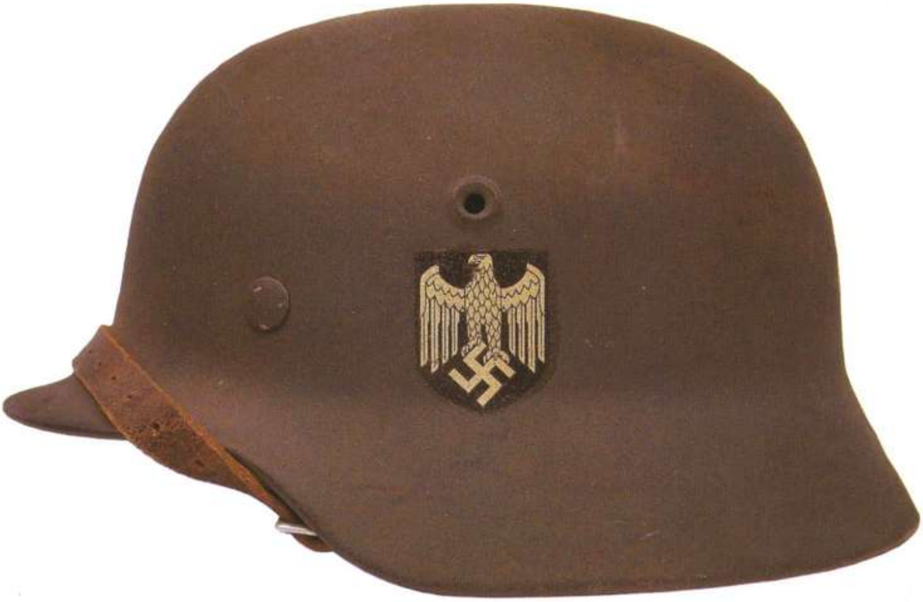
The liner found in the Q-64 M35 helmet is a reenforced aluminum frame type and is dated 1940.



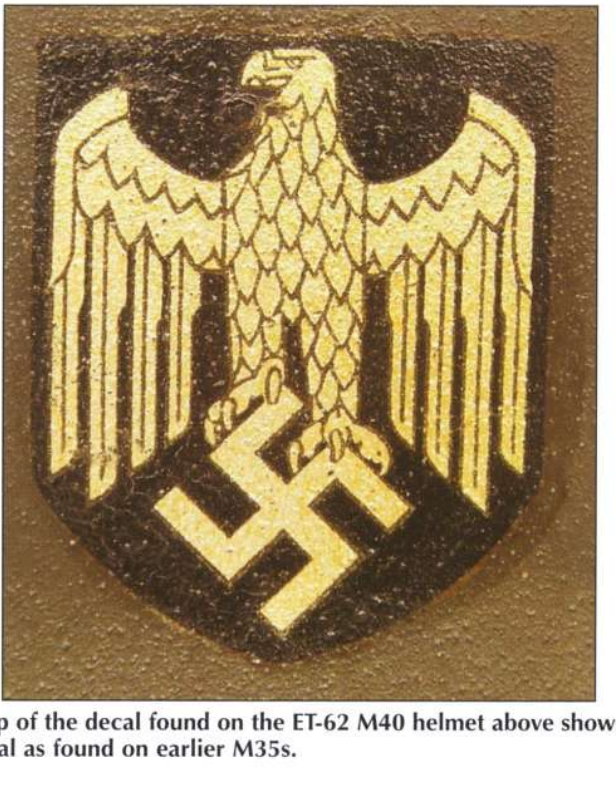
In the M40 helmet, the stamped ridge around the air-vent hole (above left) replaced the inserted grommet (above right) which had previously served as a means of protecting the edge of the air-vent hole from dents.



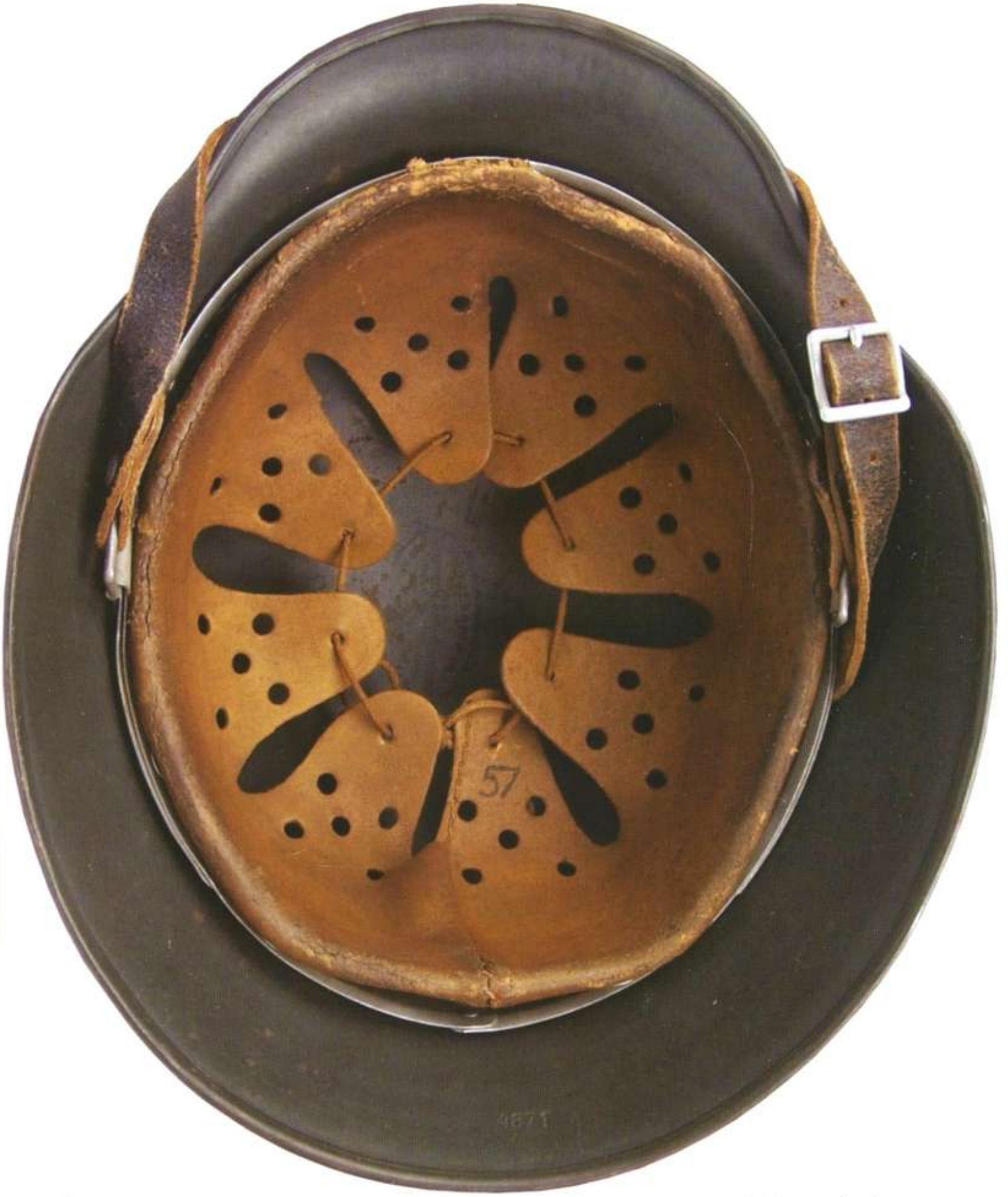
M35 Q-64 interior. While the color and matte quality of the paint is the same as that found on the exterior, there is no texture added to the paint applied to the interior. This is a feature common to all helmets that were factory finished as per 1940 specifications.



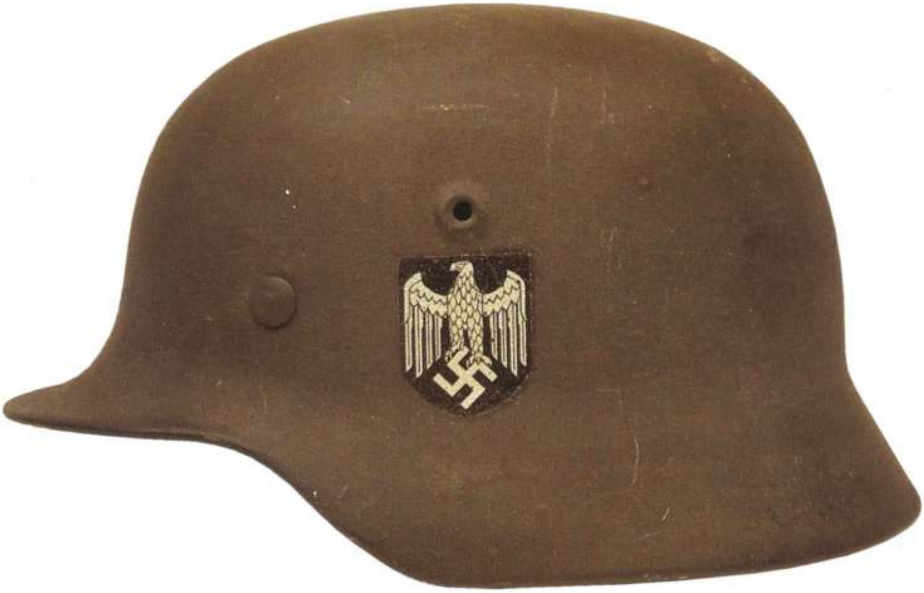
The appearance of this ET-62 M40 helmet shows the change in shell specifications which have appeared in 1940. The helmet shell has a stamped ridge around the air-vent. The exterior is finished in textured paint and has a single *Heer* decal applied. (Courtesy T. Kibler)



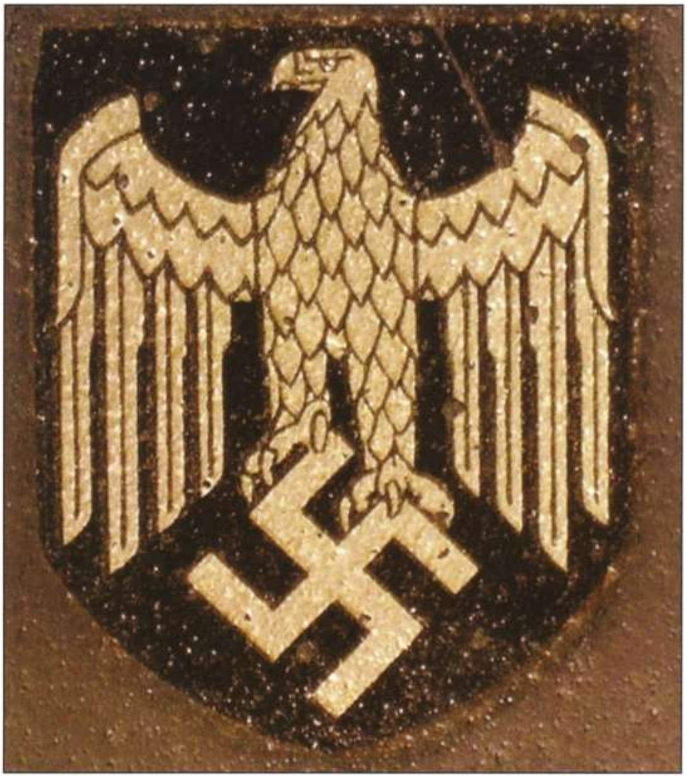
This close-up of the decal found on the ET-62 M40 helmet above shows the same ET style decal as found on earlier M35s.



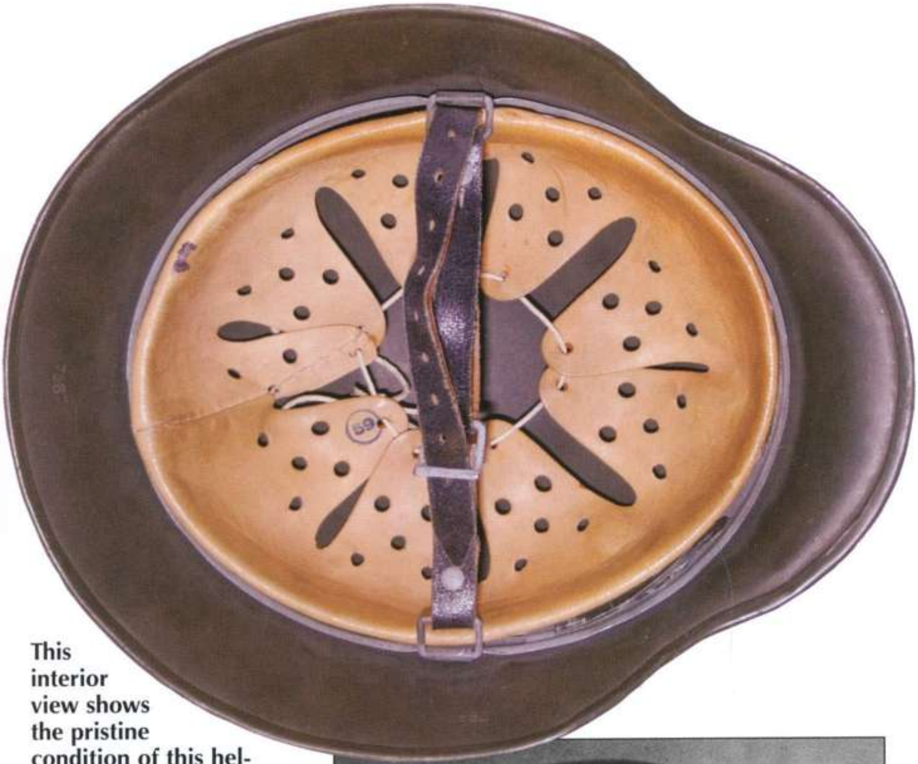
The liner of this ET-62 helmet is the expected steel-framed type with the steel wire chinstrap bales. It is dated 1940. The acceptance stamp is undated.



This Model 40 SE-66 helmet remains in nearly unissued condition. The matte finish and factory textured paint are clearly evident. (Courtesy T. Kibler)

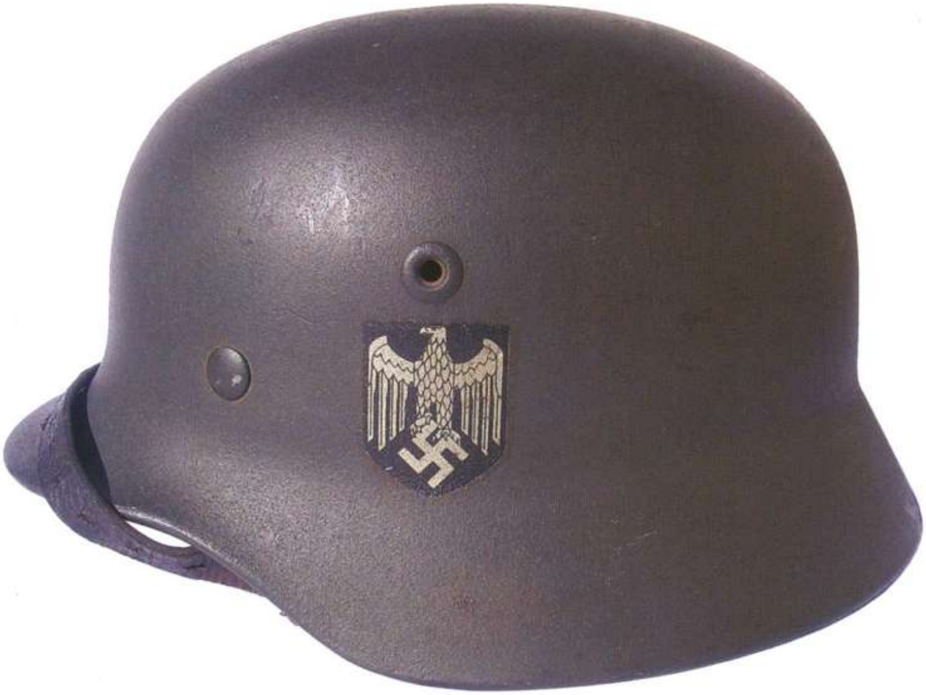


The decal is an ET pattern which is typically "borrowed" by SE for factory application. (Courtesy Tom Kibler)

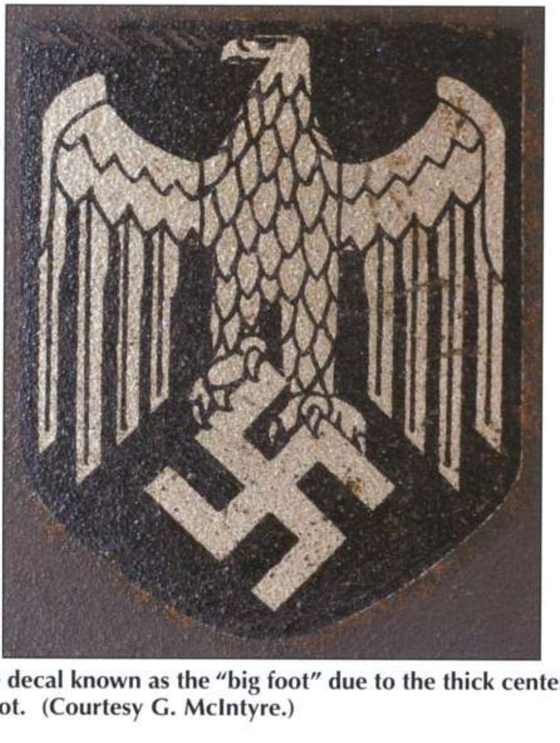


This interior view shows the pristine condition of this helmet. The steel framed liner is dated 1940. No acceptance stamp is visible inside the dome. (Courtesy T. Kibler)

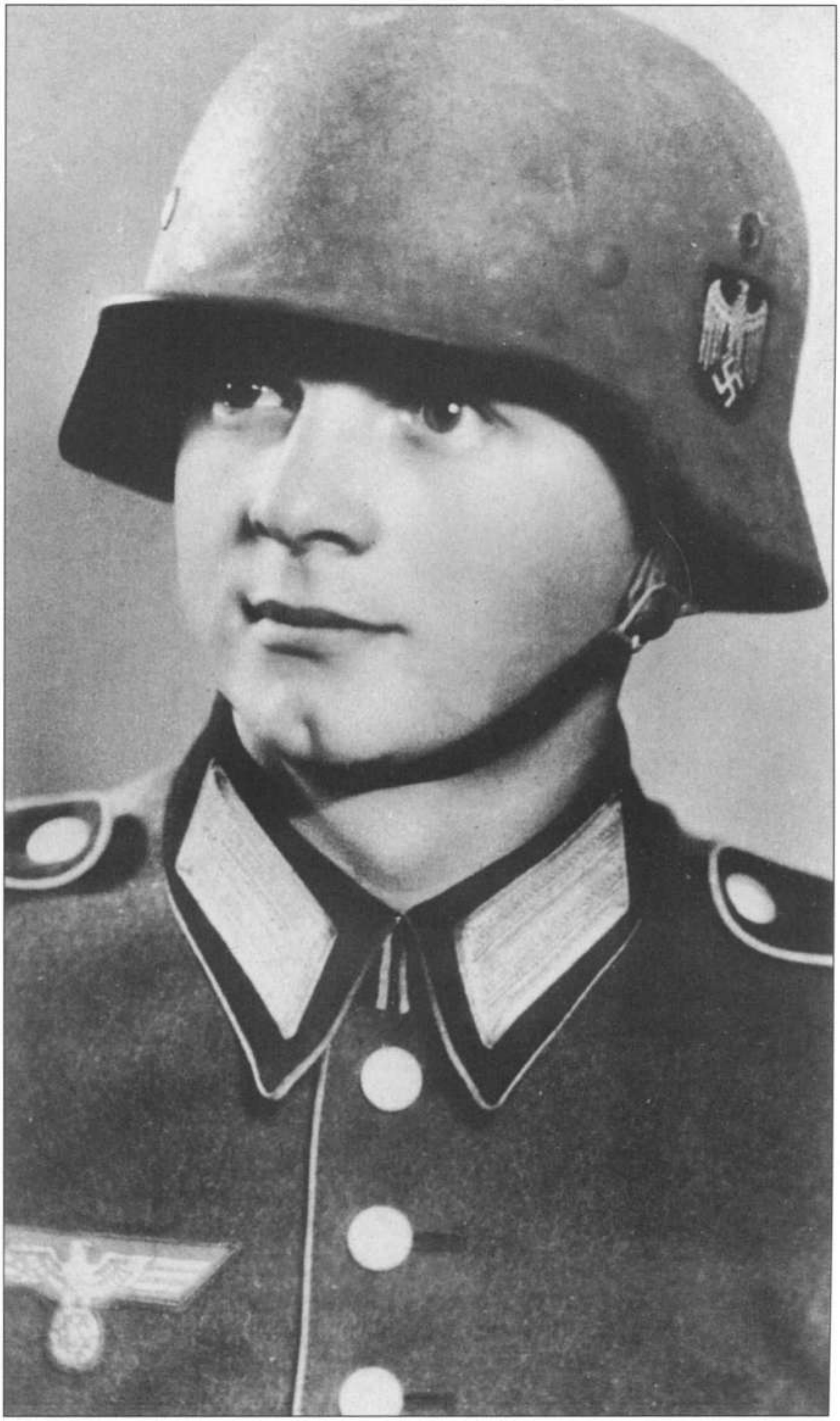
Knight's Cross holder, Oberjäger Peter Grübl.



This M40 Q-66 *Heer* helmet is finished in slate-grey, rough texture paint (Courtesy G. McIntyre.)

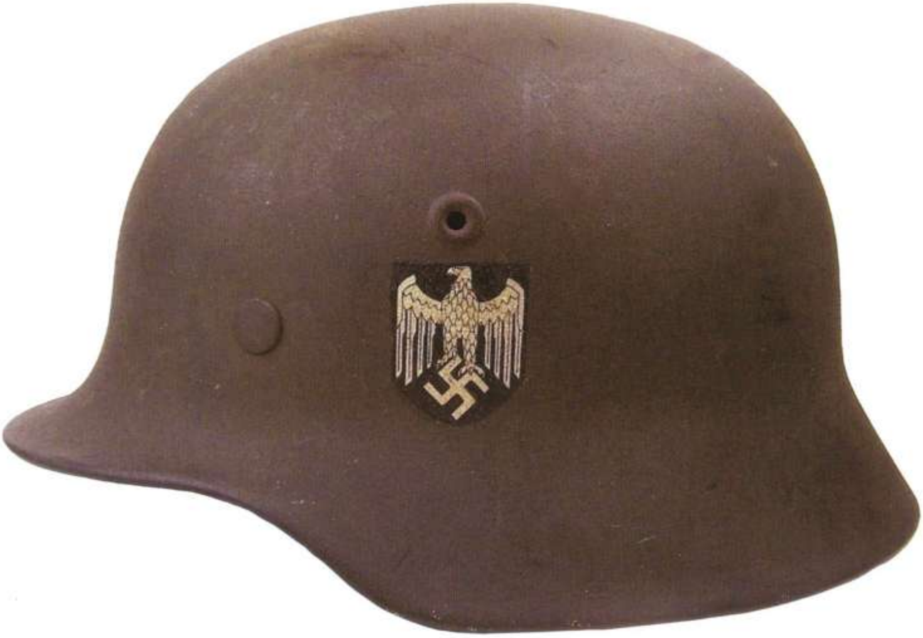


The Quist style decal known as the "big foot" due to the thick center claw on the eagle's right foot. (Courtesy G. McIntyre.)

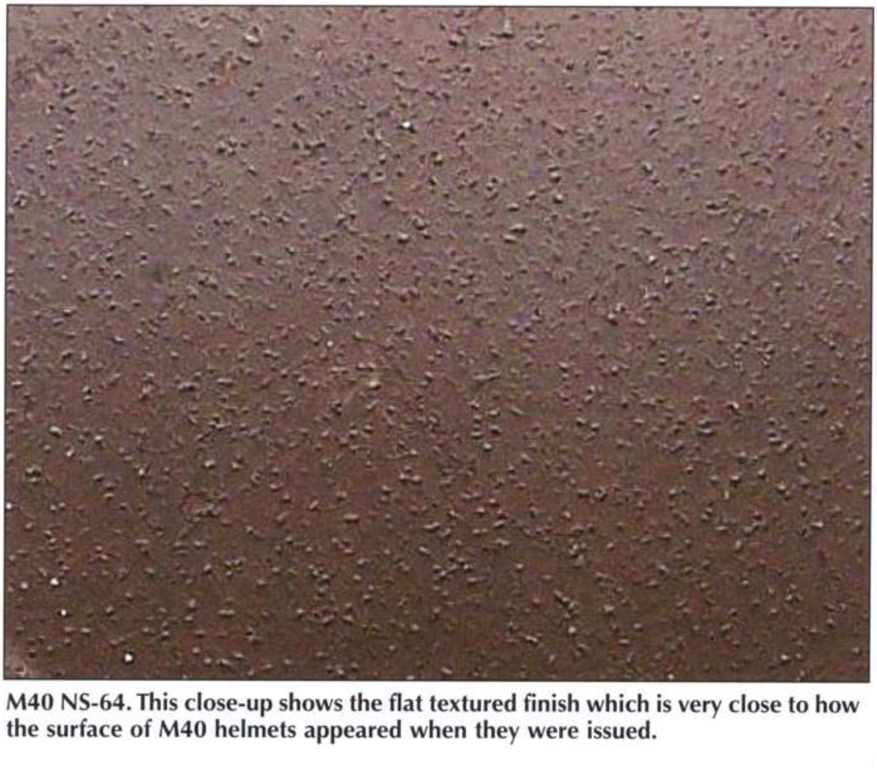


Joe Stone

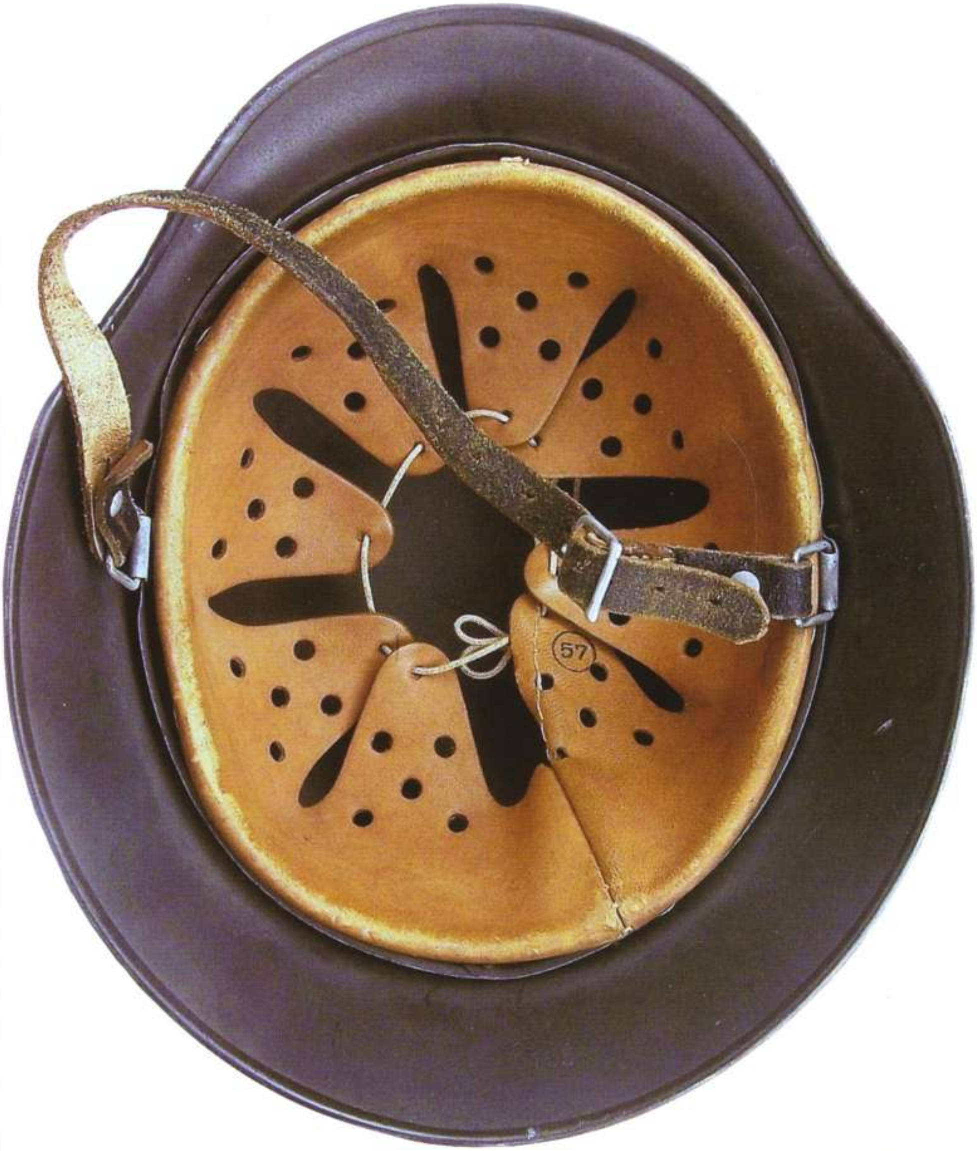
This *Heer* enlisted man wears a parade dress tunic and a Model 40 helmet. The decal is discernable as a Quist type by the thin beak of the eagle.



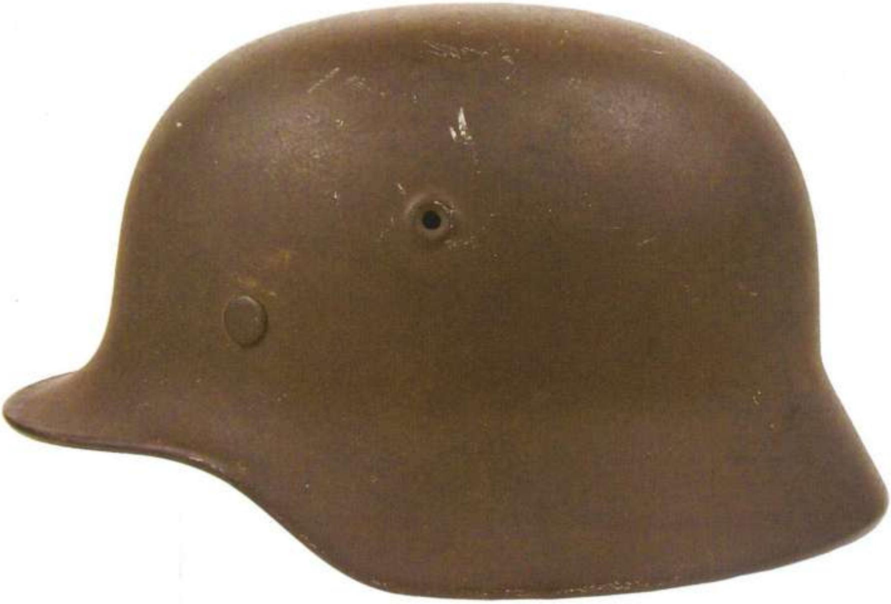
M40 NS-64. This helmet shows a rough textured finish which is altered very little by the effects of patina and handling. The slate-grey color is typical for NS wartime helmets.



M40 NS-64. This close-up shows the flat textured finish which is very close to how the surface of M40 helmets appeared when they were issued.

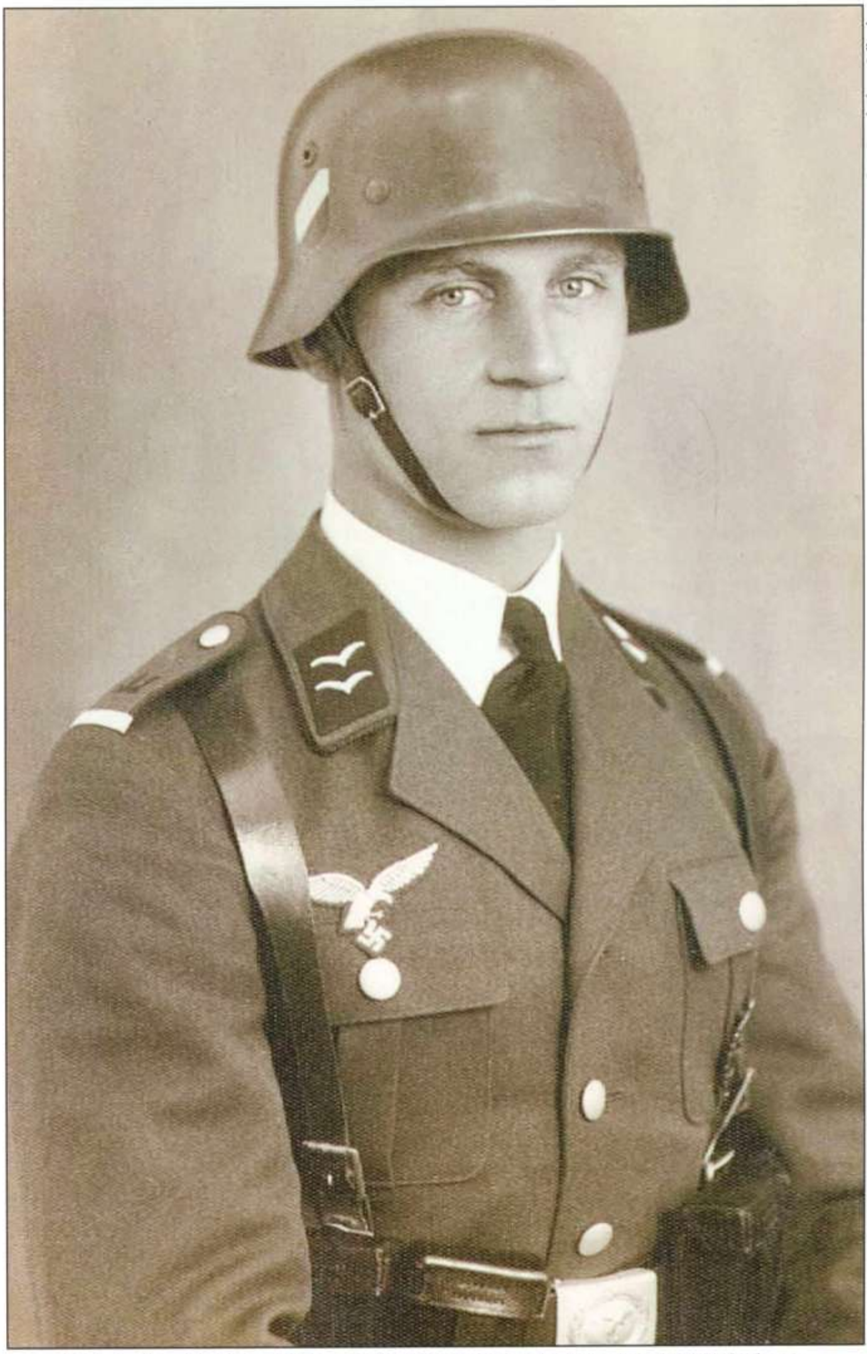


M40 NS-64. This interior view shows the smooth texture inside finish and the 1940 dated steel-framed liner.



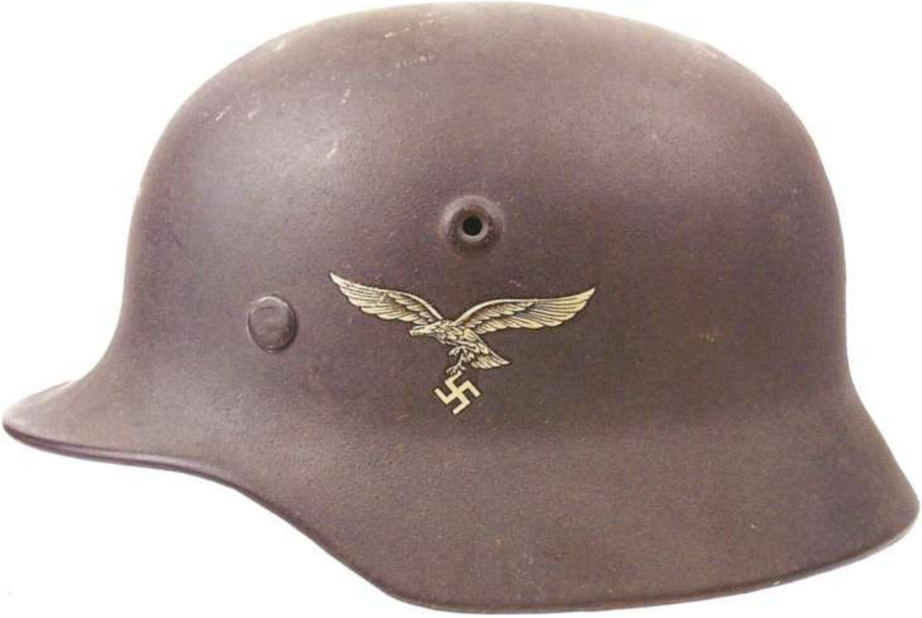
This helmet is a Model 40 produced by Quist and issued with no service insignia. Since the change in specifications regarding decal application occurred before the change of the helmet model from M40 to M42, it would stand to reason that every Model 40 helmet would have a branch of service decal. This appears to be the case with helmets produced by every factory with the exception of Quist. Many M40 Quist-made helmets exist that do not have factory applied decals. Conversely, Quist-produced M42 helmets are extremely rare with few surviving examples known. It is, therefore, theorized that the Quist plant began Model 42 production very late in the war and further, may never have completely stopped the production of the Model 40 shell. This theory is further reenforced by the common observance of Model 40 Quist helmets with 1944 dated liners. (1944 being the latest date which is normally found on liner frames.)

Luftwaffe Helmets of 1940 Specifications.

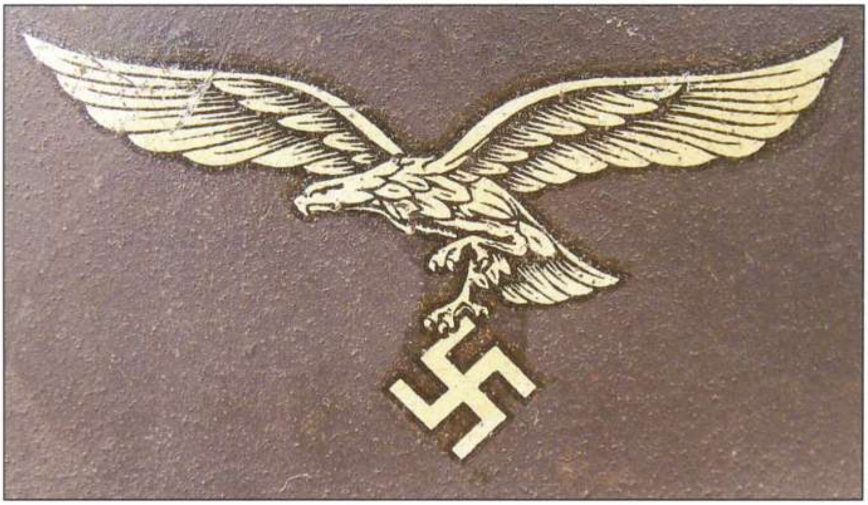


Otto Spronk Photo Collection

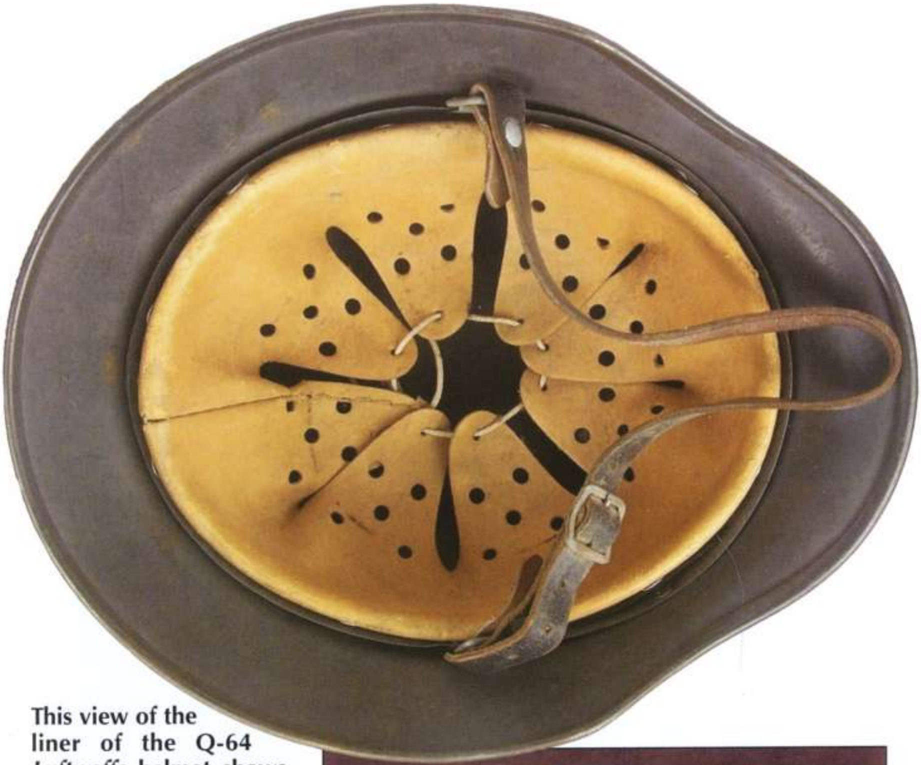
This *Luftwaffe* Flak NCO candidate wears a double decal M40 helmet.



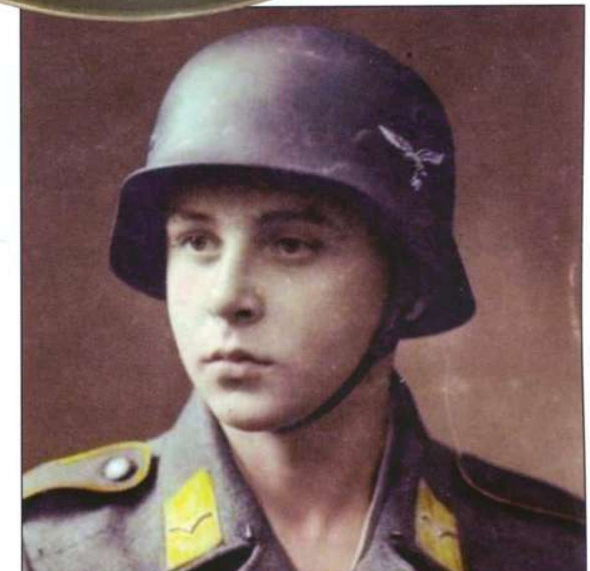
Q-64 Model 40 *Luftwaffe* helmet in unissued condition. It appears as though the Quist plant was a major supplier of this model and for this branch of service as more Q-made M40 *Luftwaffe* helmets are encountered in the collecting market than any other manufacturer.



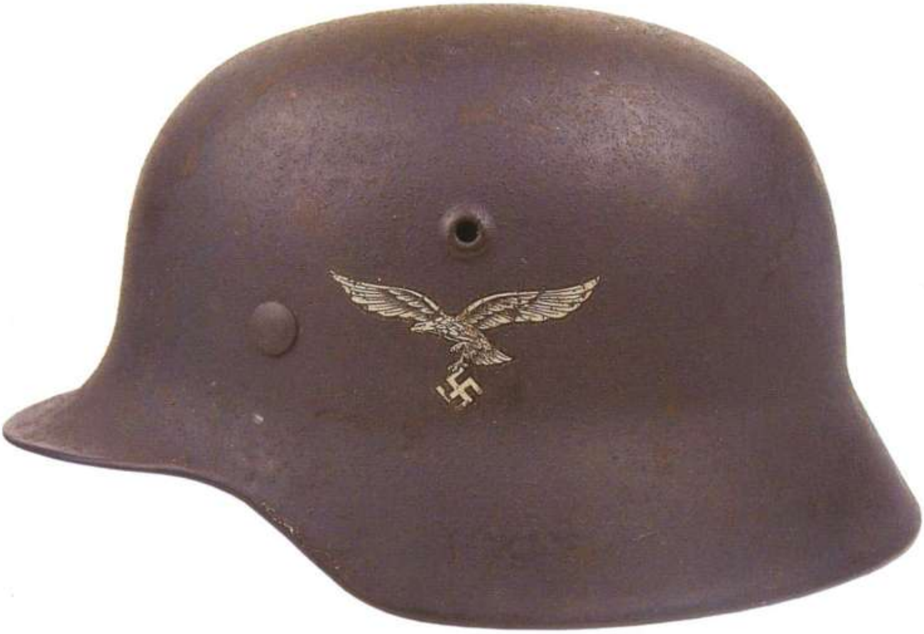
An excellent example of the "second pattern" *Luftwaffe* eagle applied over wartime textured paint. Note the heavy coating of lacquer which has been applied over the decal.



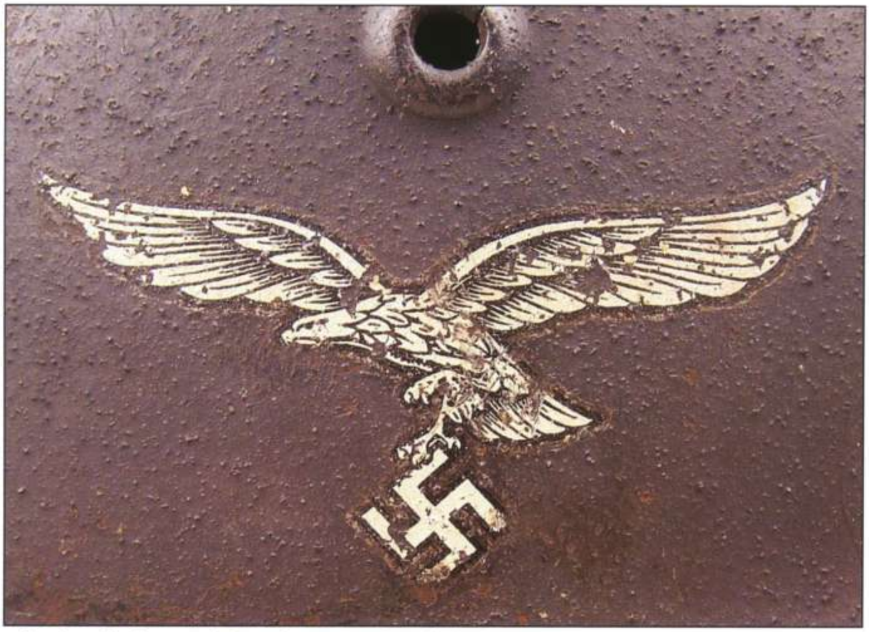
This view of the liner of the Q-64 *Luftwaffe* helmet shows its unissued condition. The liner band and chinstrap are dated 1942.



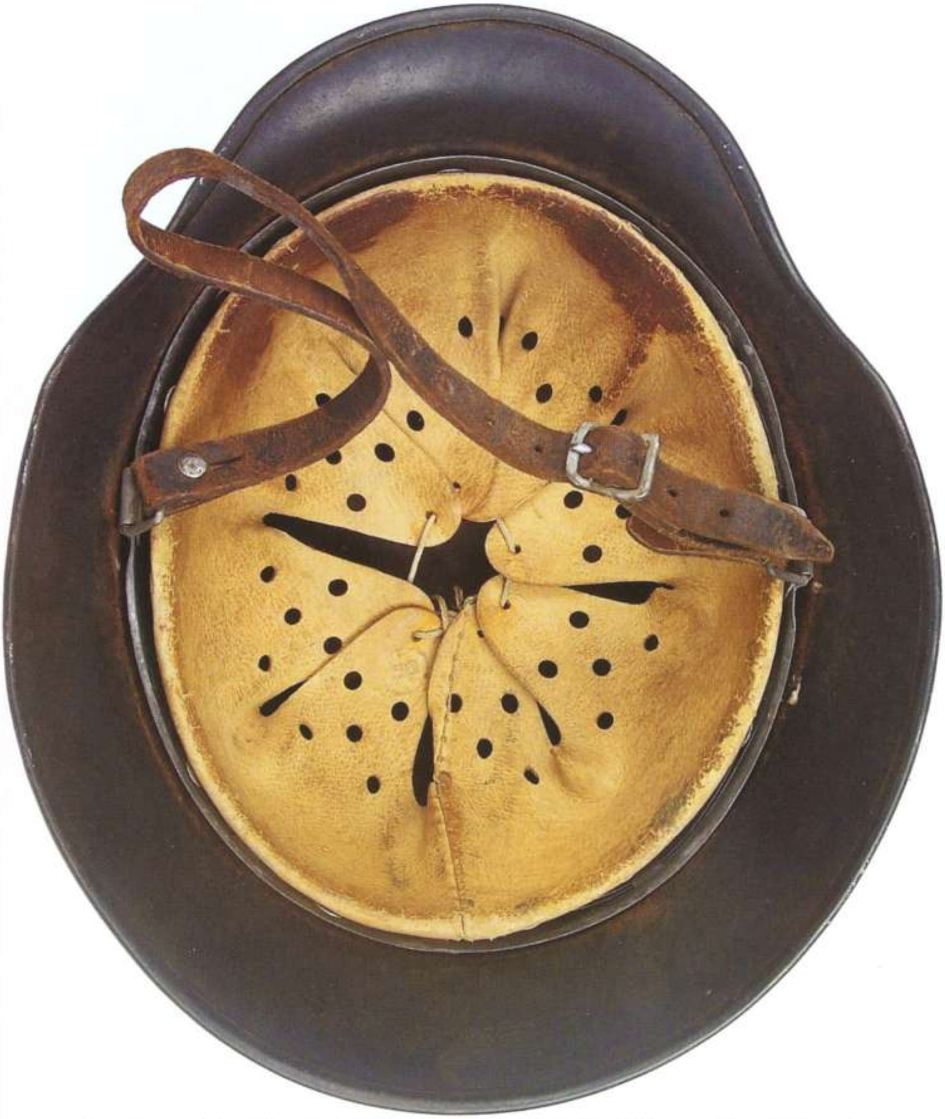
A rare period colorized photo of a young *Luftwaffe* soldier wearing an M40 helmet.



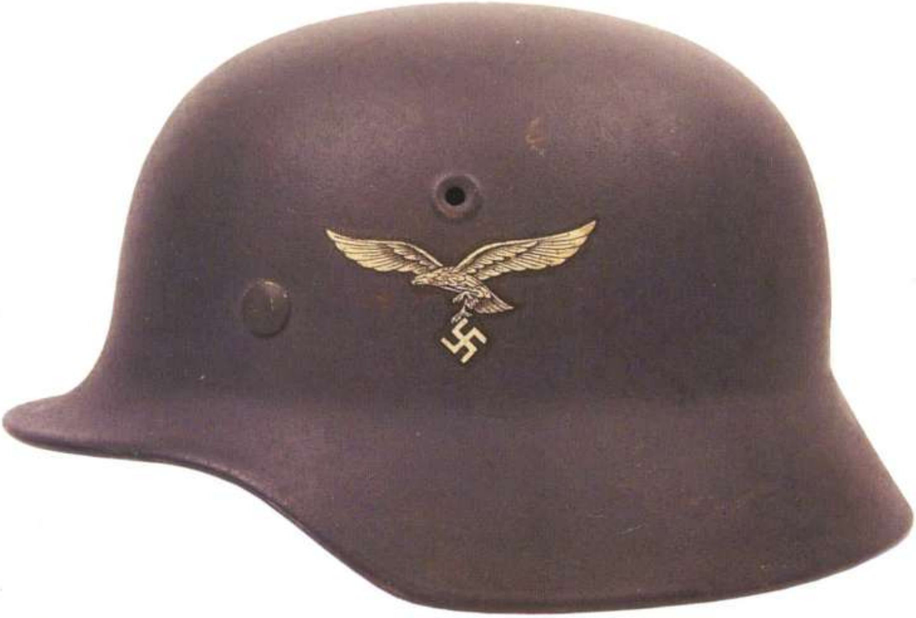
An Hkp-64 M40 *Luftwaffe* helmet. The Sachsische Emallier-und Stanzwerke AG was the first of the helmet factories to change its maker code. (In this case, the change was from SE to Hkp.) This change appears to have been effected late during the time of M40 production as the majority of M40s produced by this factory continued to bear the SE maker code.



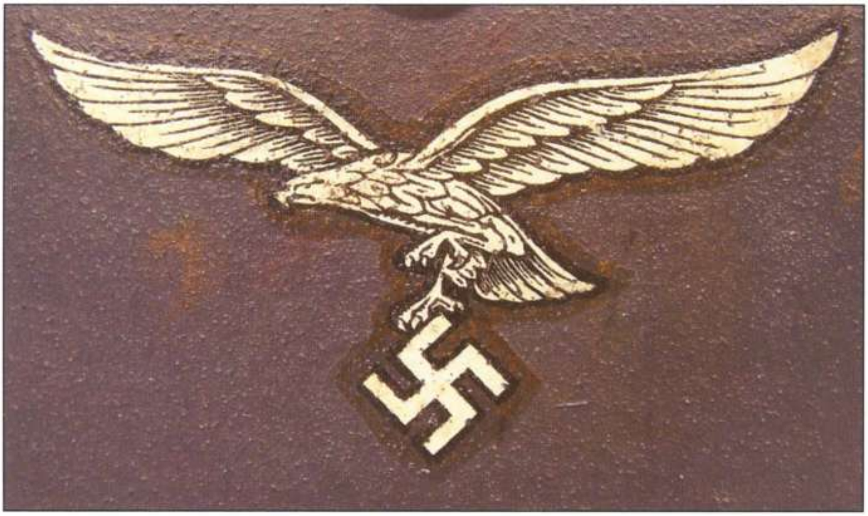
This detail photo of the Hkp-64 *Luftwaffe* helmet shows the relatively rough texture of the paint as well as the conical shaped air-vent; both of which are typical of the SE/Hkp maker.



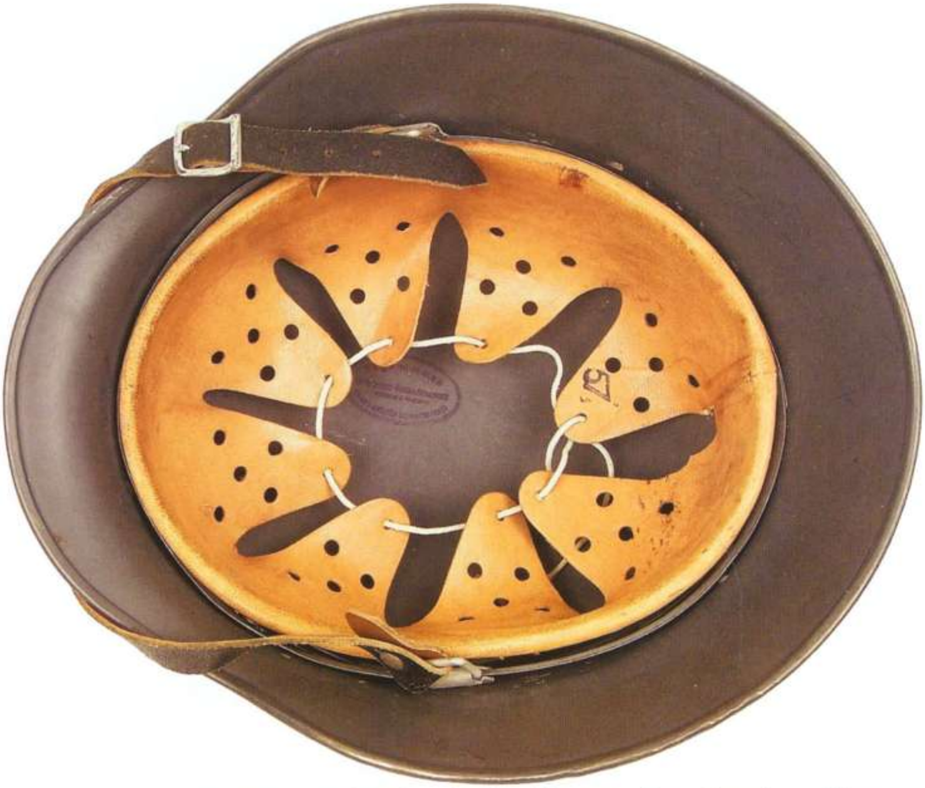
Interior view of the Hkp-64 M40 *Luftwaffe* helmet. The Hkp marking is found on the left side of the inner rim. Later Hkp-produced M40 helmets have the maker code stamped at the rear.



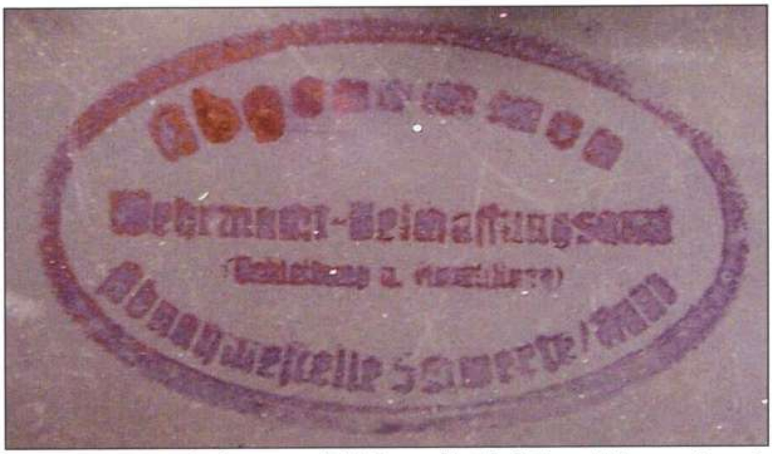
This is an unissued example of a Model 40 *Luftwaffe* helmet manufactured by NS. Note the slightly higher placement and minor mis-alignment of the eagle insignia which is a trait commonly found on NS produced *Luftwaffe* helmets.



The decal is the typical type as found on NS products. The most distinguishing characteristic of this eagle decal is the talon which holds the upper arm of the swastika. Note that where it connects, the talon does not interrupt the white area of the swastika arm.

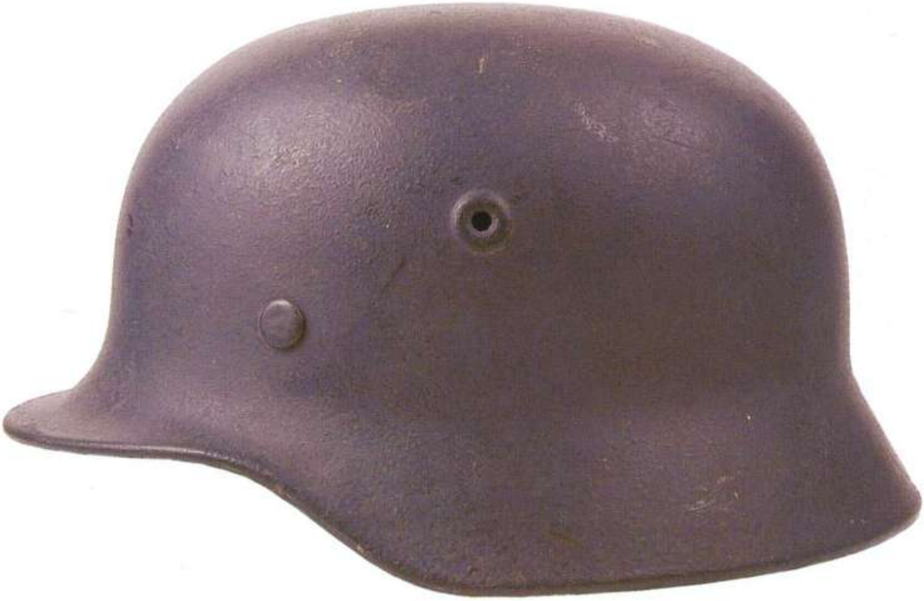


The interior of this NS *Luftwaffe* helmet further illustrates the unissued condition. It appears as though the white drawstring has never been tied. There is an odd feature of this particular example in the juxtaposition of the maker and size marking and the lot number stamp. The NS64 stamp is placed at the rear of the inner rim while the steel lot number is placed at the wearer's left side.

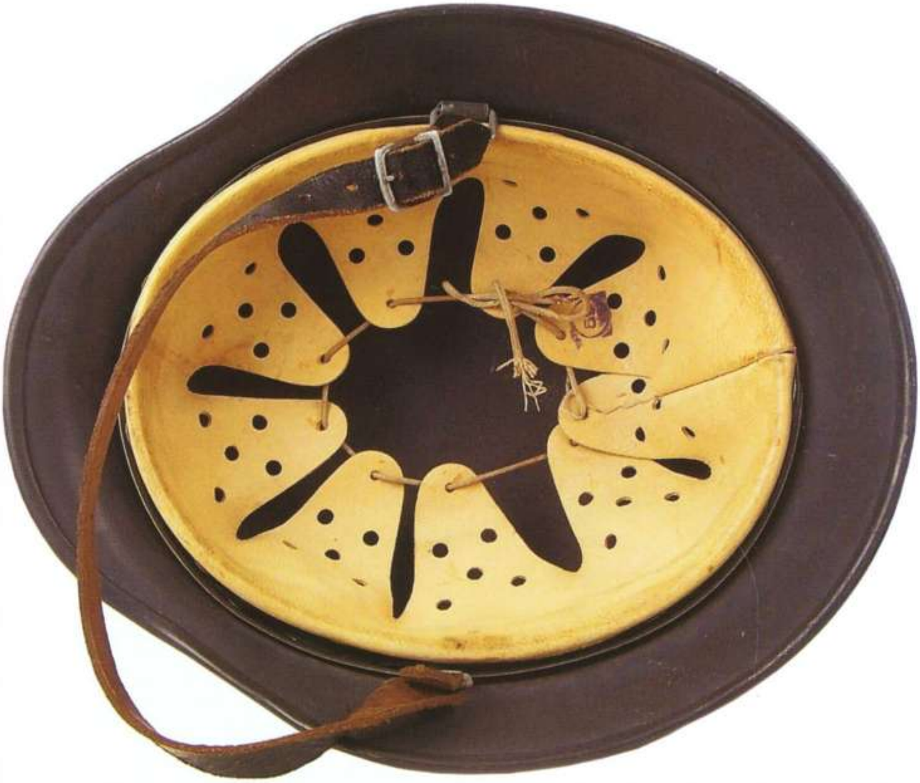


The acceptance stamp is the type which immediately followed the previous dated types found in M35 helmets. The bottom line reads *"Abnahmenstelle Schwerte/ Ruhr."* The acceptance office was located in the city of Schwerte; home of the NS factory.

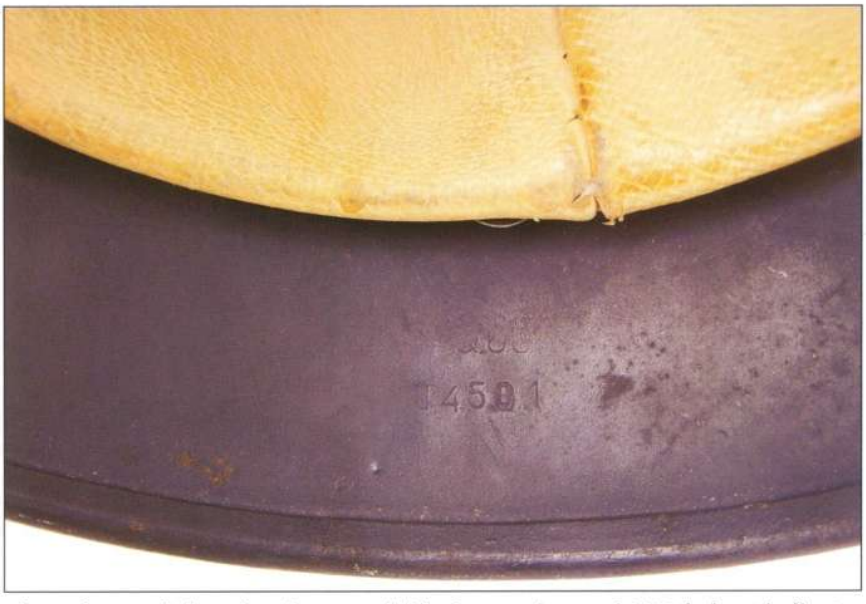
Bohumir Kudlicka



This is a rare example of a *Luftwaffe* M40 helmet with no factory applied decal. The helmet manufacturer is F.W.Quist. As noted earlier, Quist is quite probably the only helmet producer which produced M40 helmets with no factory applied decals. The reason for this being that Quist, alone among the five helmet factories, continued to produce M40 helmets long after the cessation of factory decal application which occurred in 1943. This writer has never encountered a non-factory decaled M40 *Luftwaffe* helmet that was not produced by Quist.

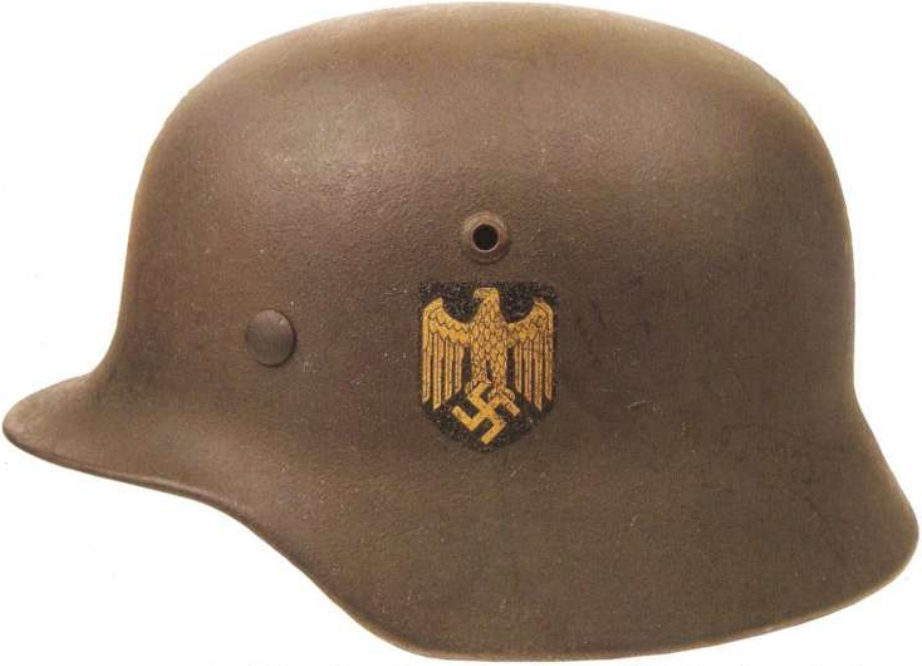


The inside view of this M40 Q-66 no decal *Luftwaffe* helmet shows the unissued condition of the liner and chinstrap. The liner assembly is dated 1944.

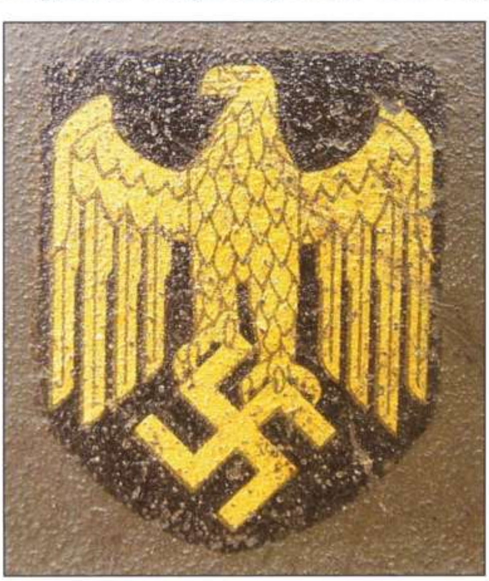


The maker mark found at the rear of this Q-manufactured M40 helmet indicates a fairly late manufacture.

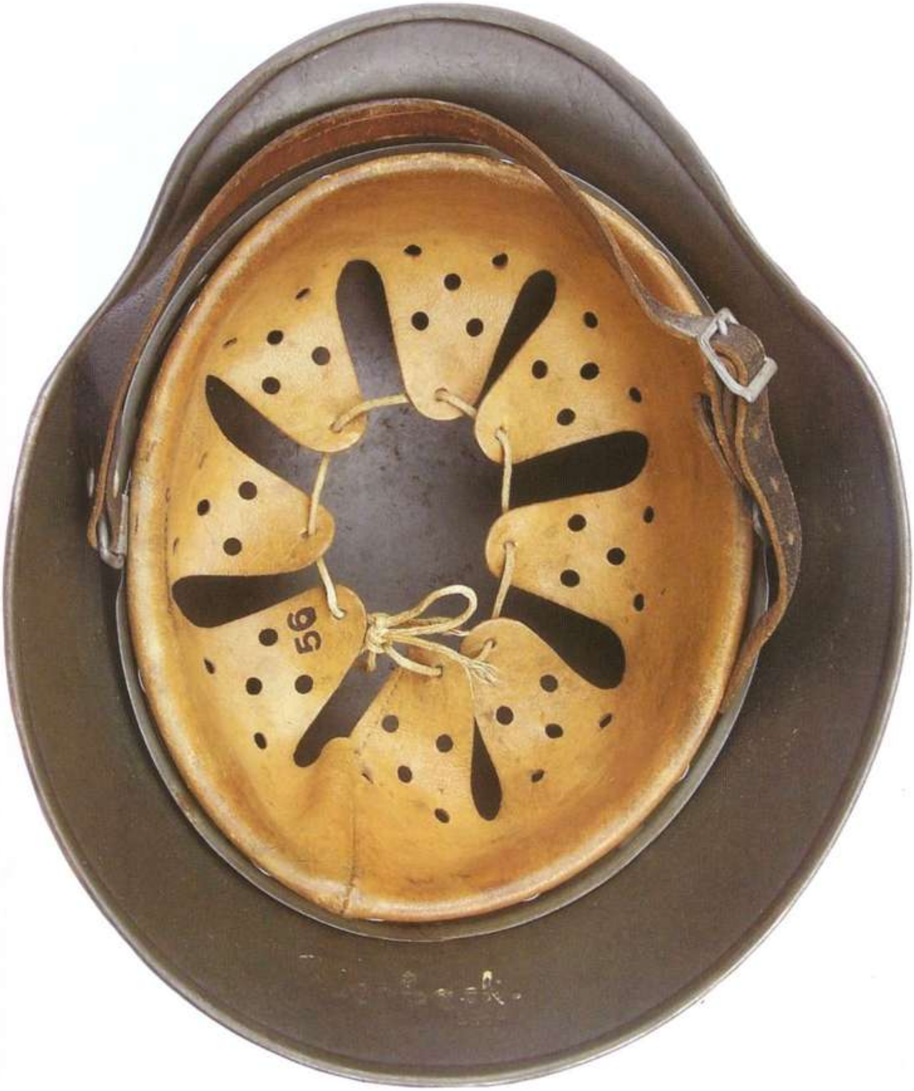
Kriegsmarine Helmets of 1940 Specifications.



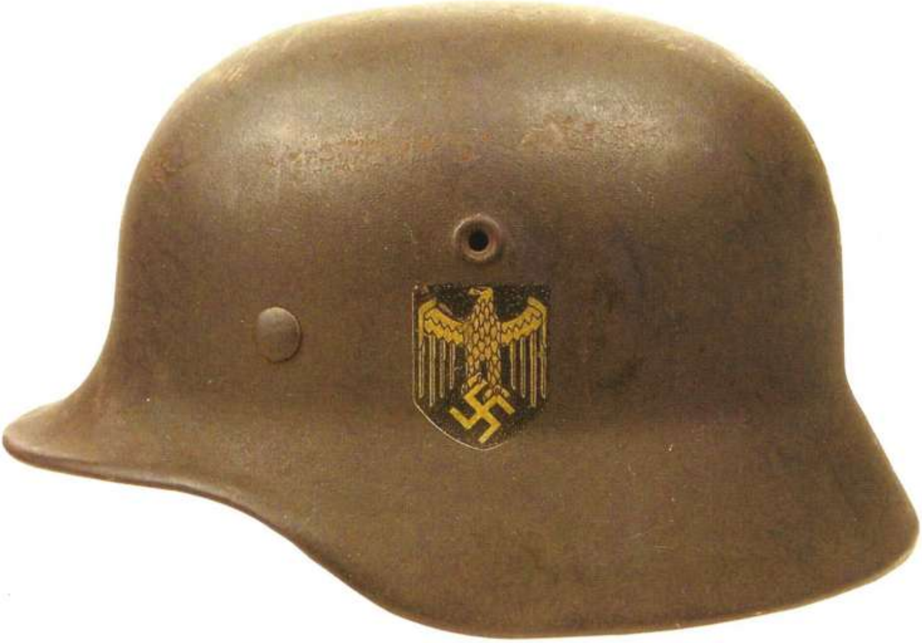
This SE-64 Model 35 helmet has a lot number of 4864 which dates its production as being near the transition from M35 to M40 specifications. The helmet is finished in textured *feldgrau* and a single *Kriegsmarine* decal is applied.



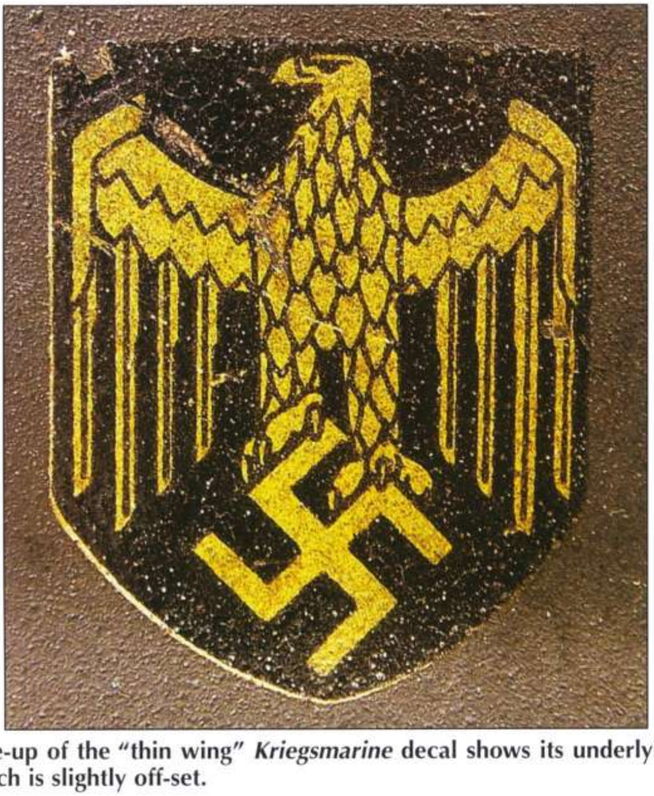
The ET style decal is of two-layer construction although this feature is mostly obscured by the textured paint beneath.



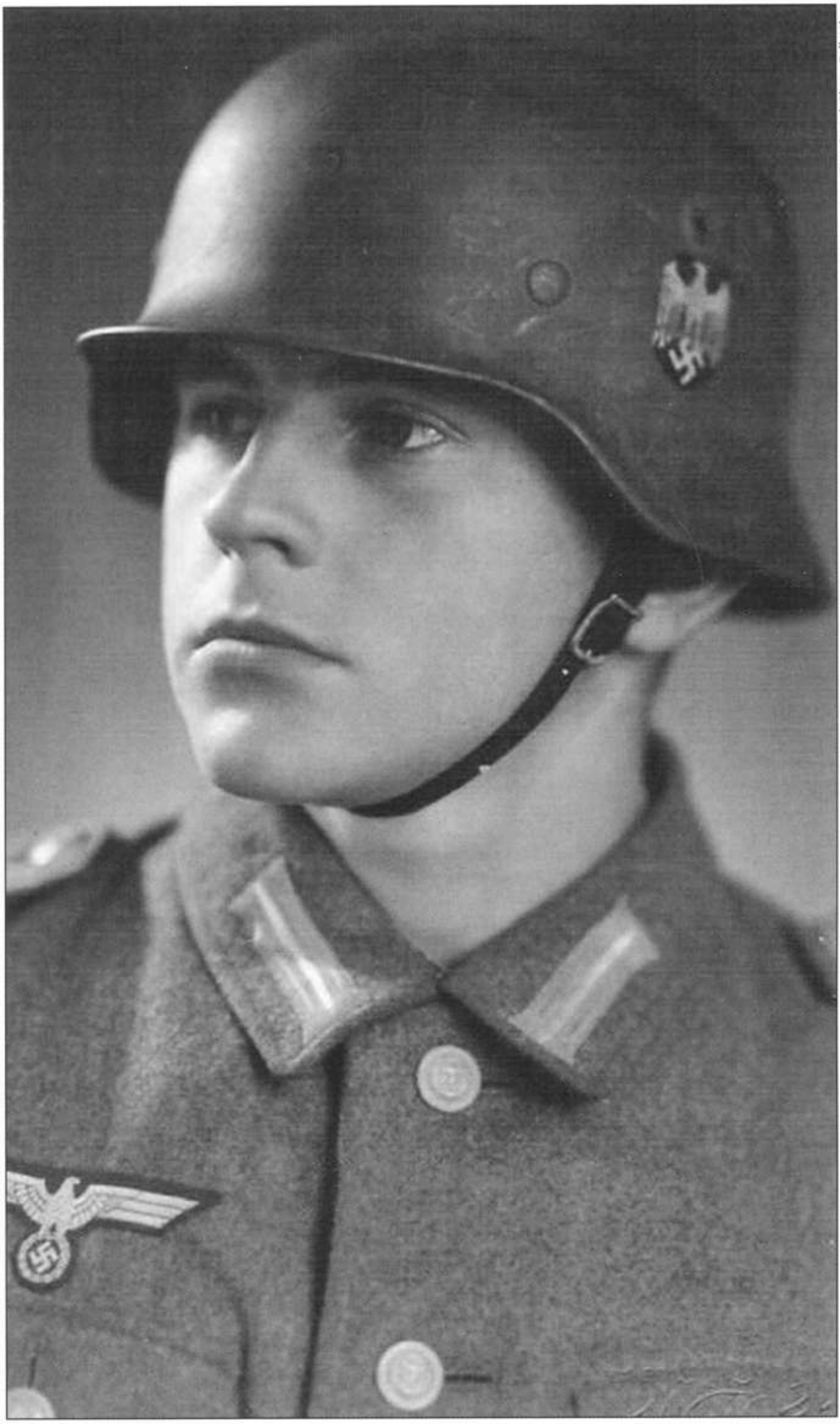
The interior view of this M35 KM helmet shows the expected smooth texture paint which indicates factory finish as opposed to the helmet being a reissue. The liner band and chinstrap are dated 1940. As is common in SE-produced helmets, no acceptance stamp has been placed inside the dome.



EF-64 Model 40 *Kriegsmarine* helmet. The painted finish is the EF style dark grey-green and the decal is the wartime "thin-wing" version.



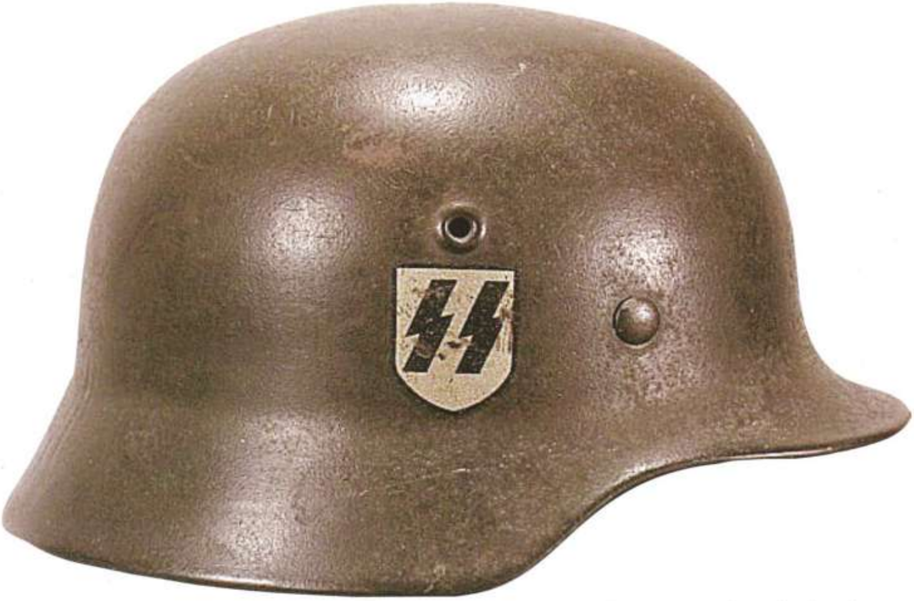
This close-up of the "thin wing" *Kriegsmarine* decal shows its underlying white layer which is slightly off-set.



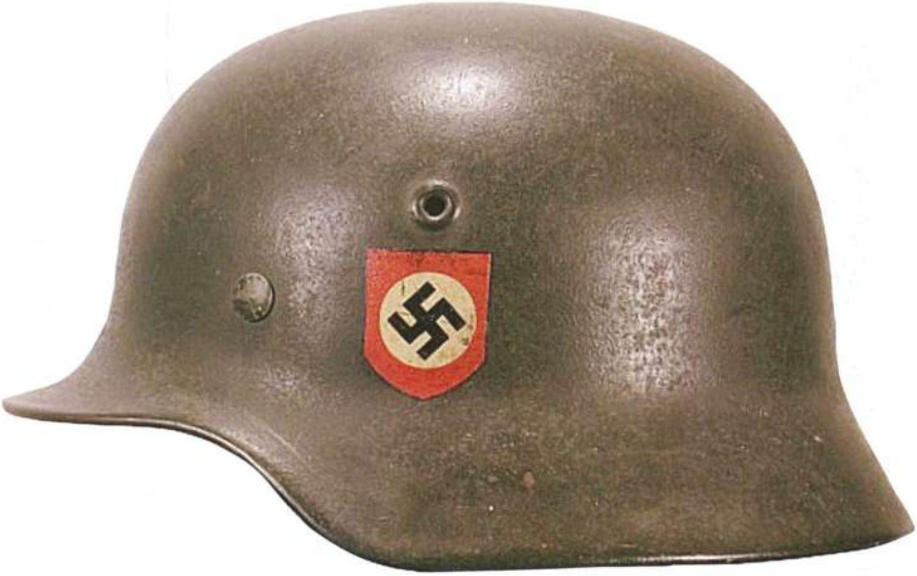
Otto Spronk Photo Collection

An enlisted man of the *Kriegsmarine* coastal artillery wears the *feldgrau* field uniform and an M40 single decal *Kriegsmarine* helmet.

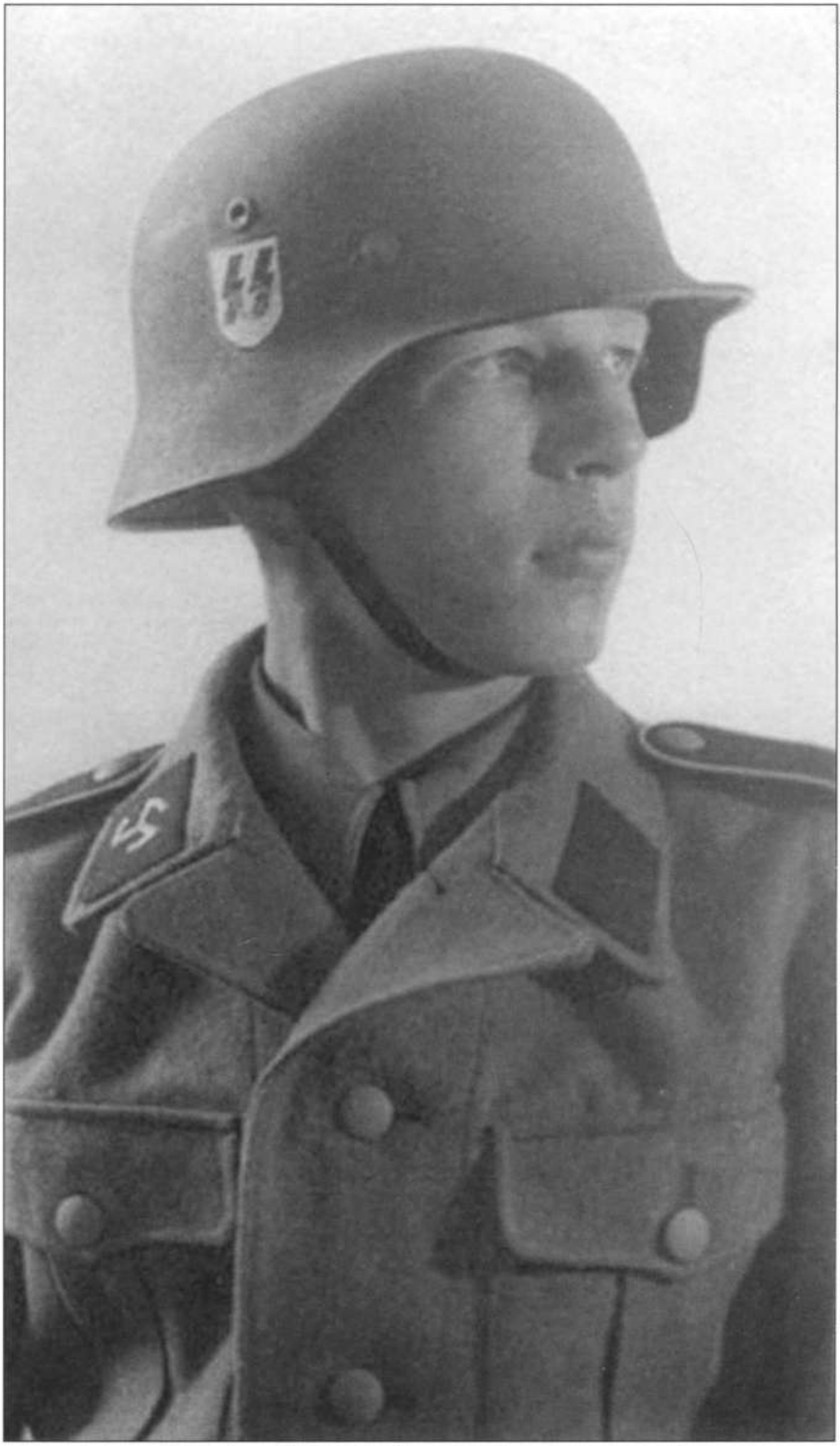
Waffen-SS Helmets of 1940 Specifications.



The SS continued to issue helmets in double decal configuration after the institution of the Model 1940 specs. This ET M40 is finished in textured *feldgrau* and is adorned with the expected ET runic shield. (Courtesy Kelly Hicks)

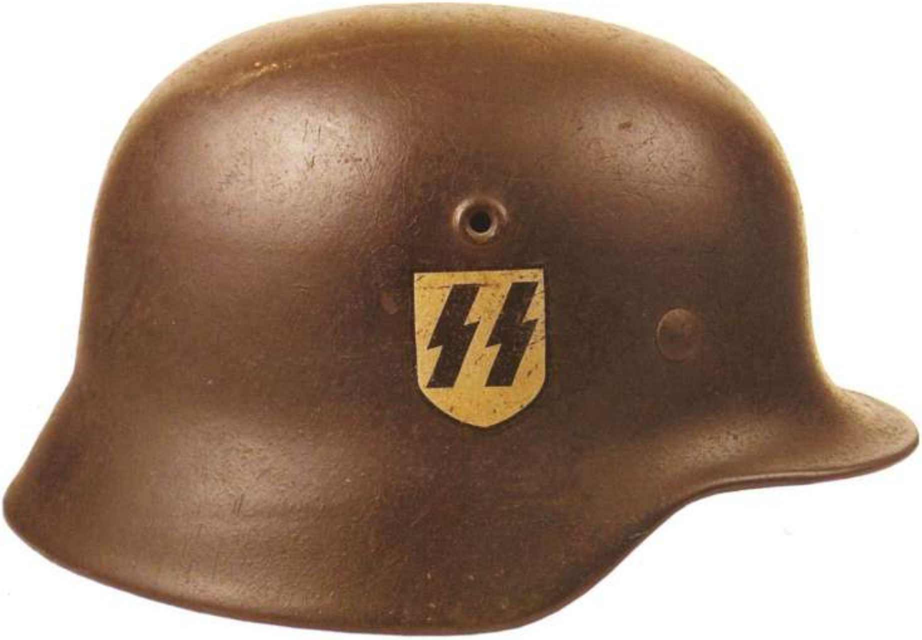


The Party shield is a C.A. Pocher type rather than the ET style normally seen as factory applications. This particular helmet saw service at the Dachau concentration camp. The Party shield may be an after-the-factory modification due to the non-combat role that this helmet played. (Courtesy Kelly Hicks)

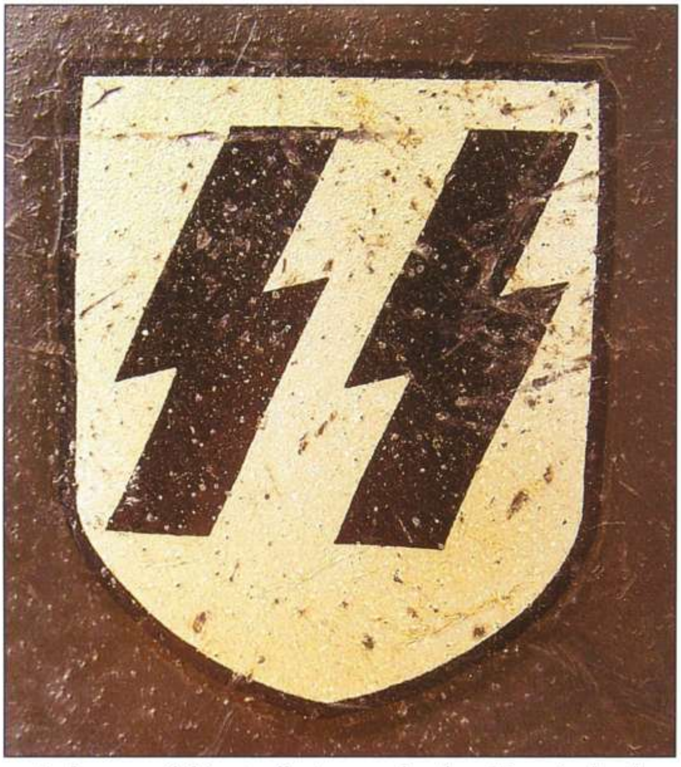


Otto Spronk Photo Collection

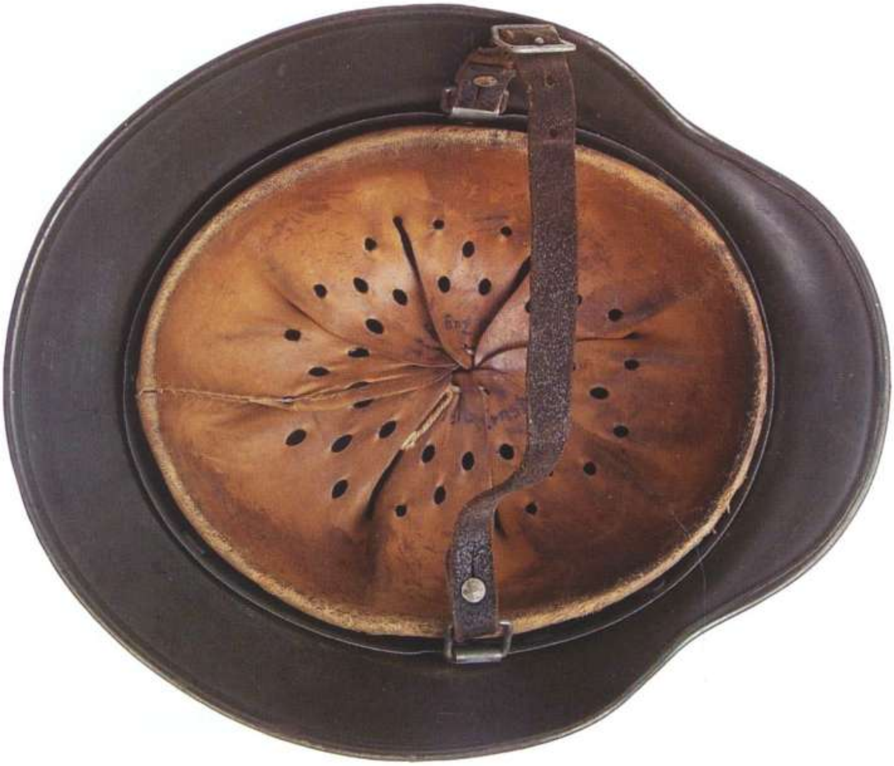
A member of *SS-Freiwilligen-Standarte "Nordwest."*



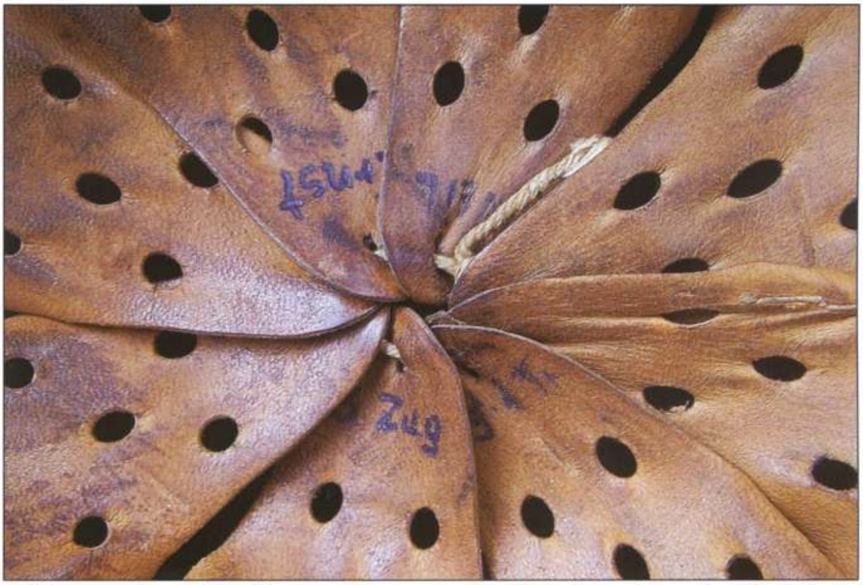
This Model 1940 helmet was produced by the Eisenhuttenwerke and displays the expected ET pattern decal.



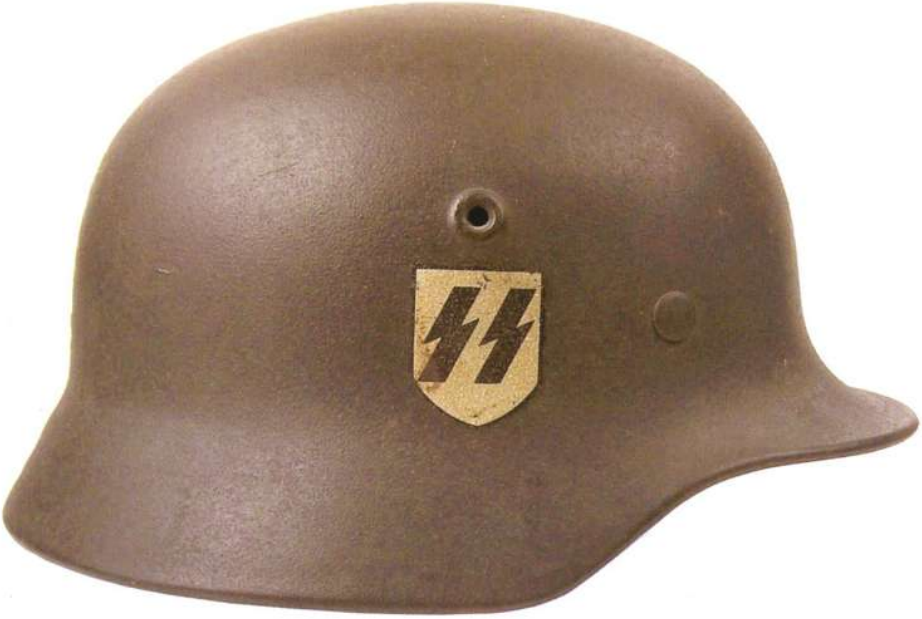
A close-up of this excellent example of an ET runic decal.



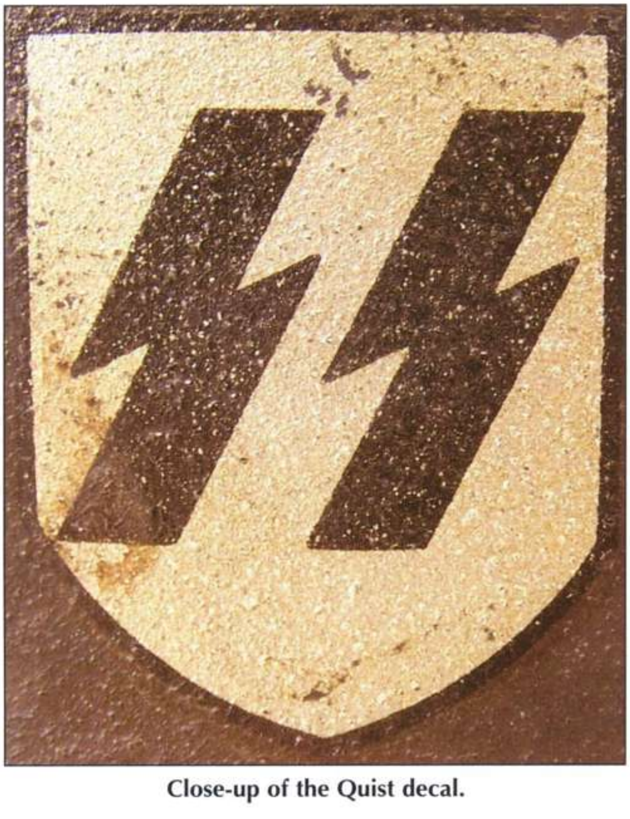
The separate "fingers" of the liner in this M40 *Waffen-SS* helmet have been drawn together by the tightening of the drawstring to adjust to the size of the soldier's head.



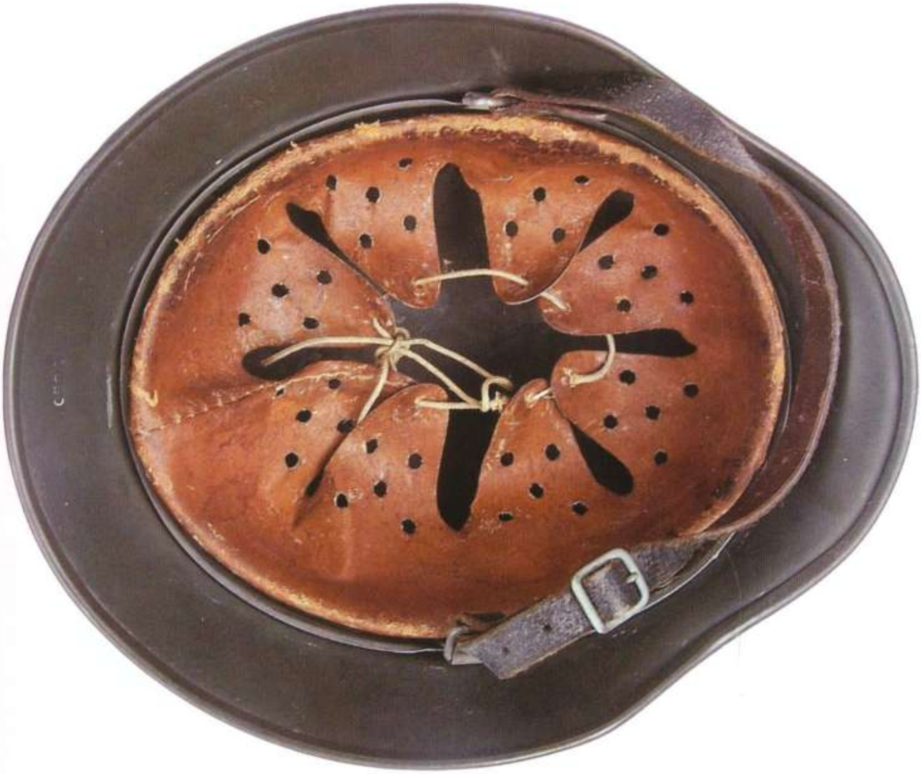
A close-up photo of the liner in this M40 *Waffen-SS* helmet shows that the helmet is ID'd to Ernst Weil who served in the 3rd *Zug* (3rd platoon) of an unnamed unit.



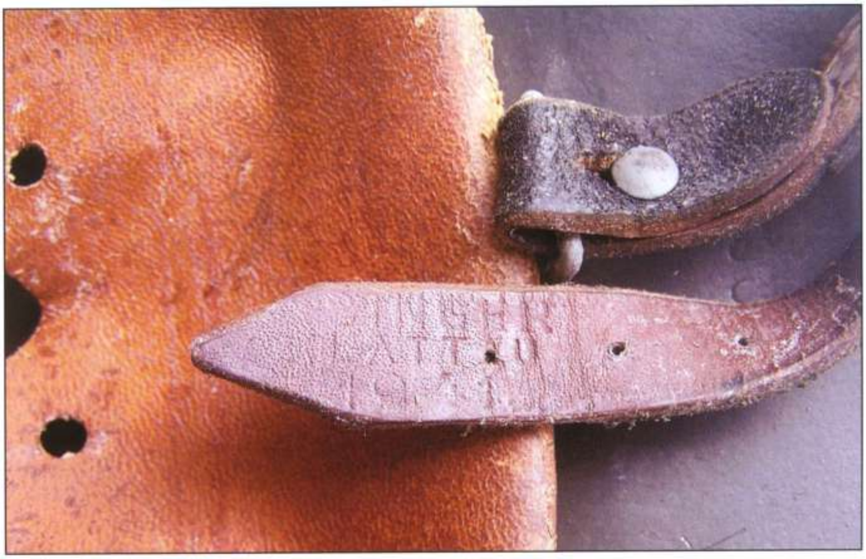
This Q-64 M40 helmet bears a single runic decal which is specific (and exclusive) to products of the Quist factory.



Close-up of the Quist decal.

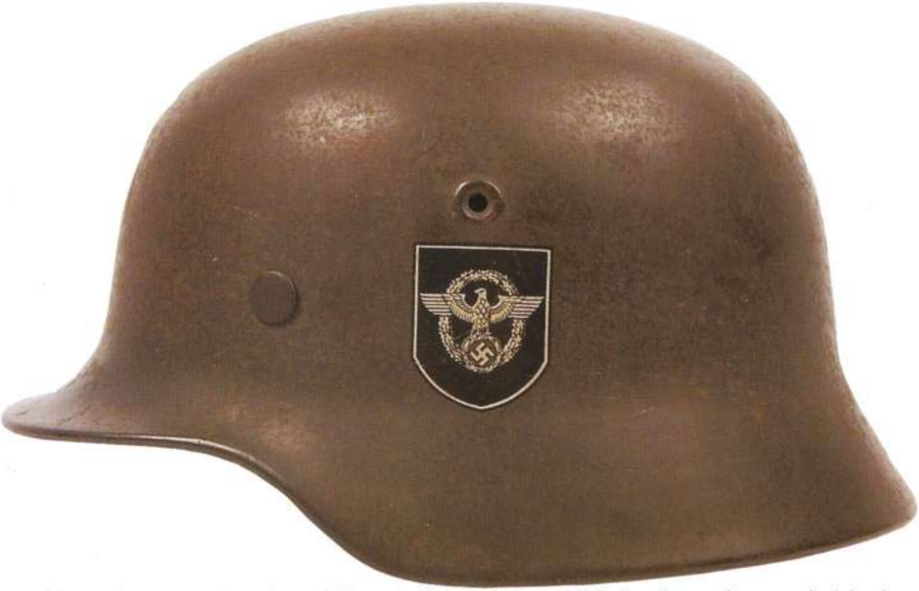


A view of the liner of this Q-64 *Waffen-SS* helmet illustrates once more the lack of aluminum oxide texture on the interior of factory finished Model 40 helmets.

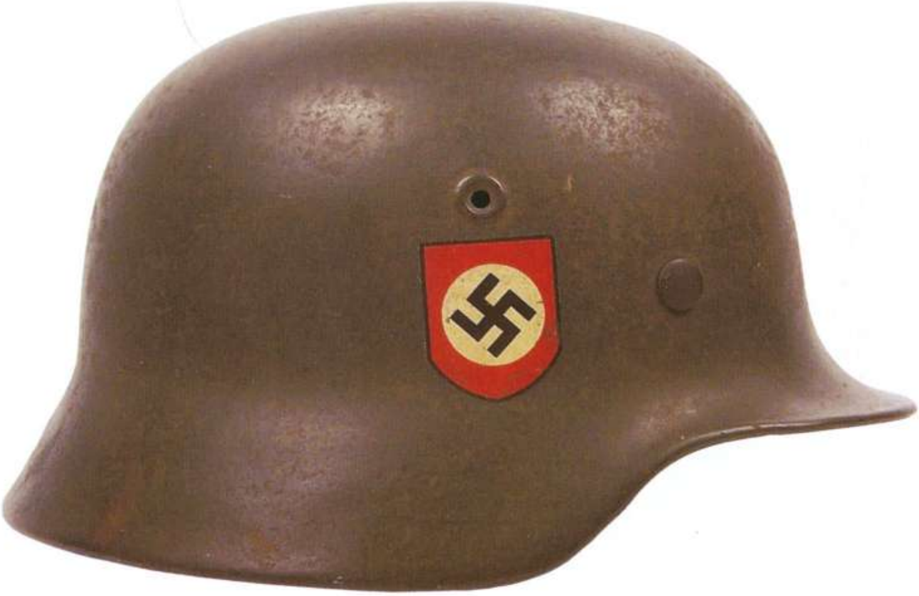


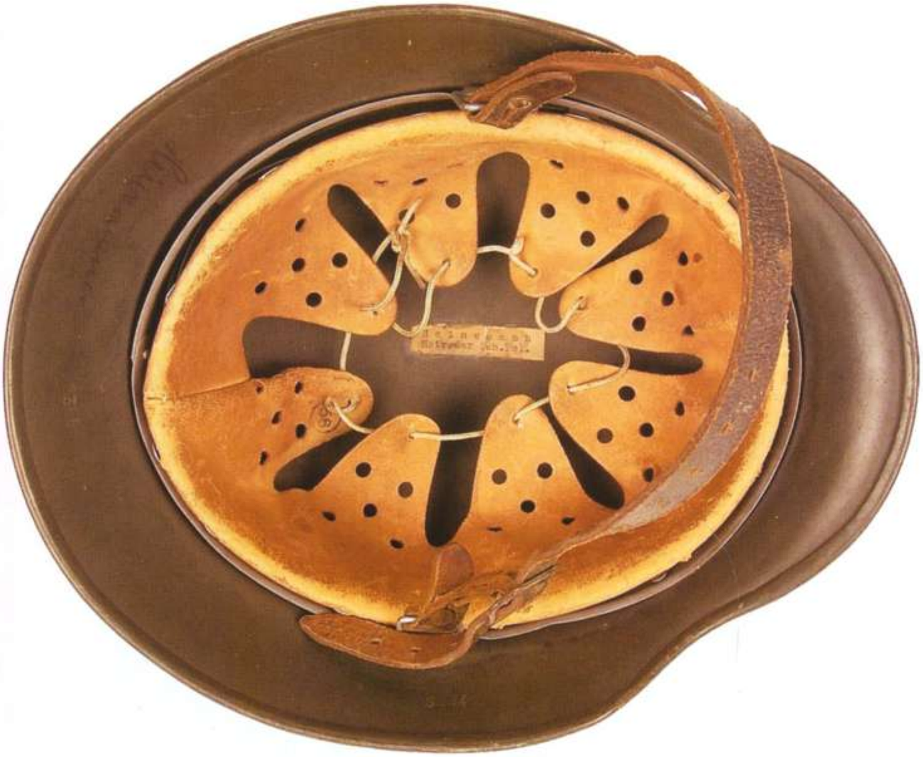
The maker mark of the chinstrap is that of the G. Singer Leather Works located in Klattowicz (Klattau) occupied Czechoslovakia. G. Singer chinstraps are often found on post-1940 *Waffen-SS* helmets suggesting the possibility that this manufacturer held specific SS contracts.

Police Helmets of 1940 Specifications

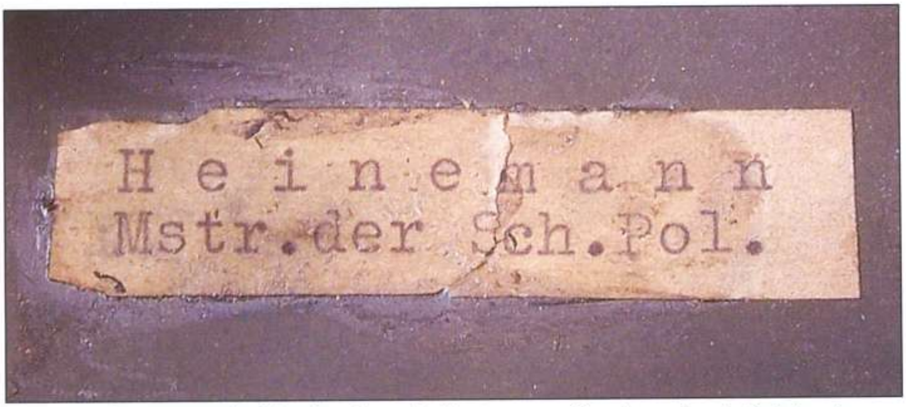


This is an SE-produced Model 40 Police helmet which has been factory finished in a smooth textured color which is only found on helmets of this manufacturer and branch of service. SE-produced Police helmets are very often encountered with component dates of 1939 and 1940 but only rarely are found with other dates. This suggests that the SE factory received its main police contracts during this period and may be the reason why there exists a paint color which is unique to this manufacturer and this time-frame.





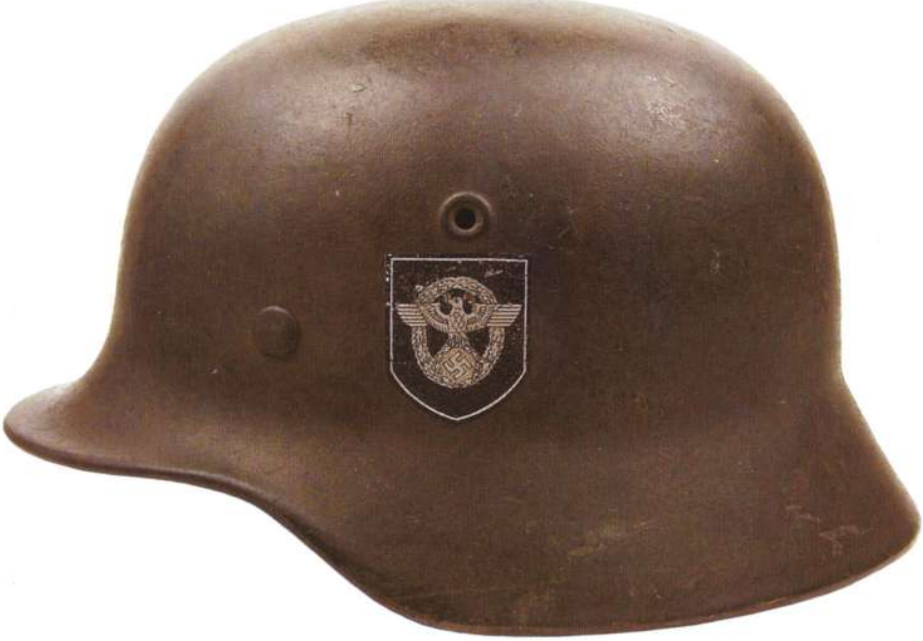
Inside view showing the 1940 dated liner and chinstrap. The police officer's name "Heinemann" is penciled onto the rear skirt as well as appearing on the name tag.



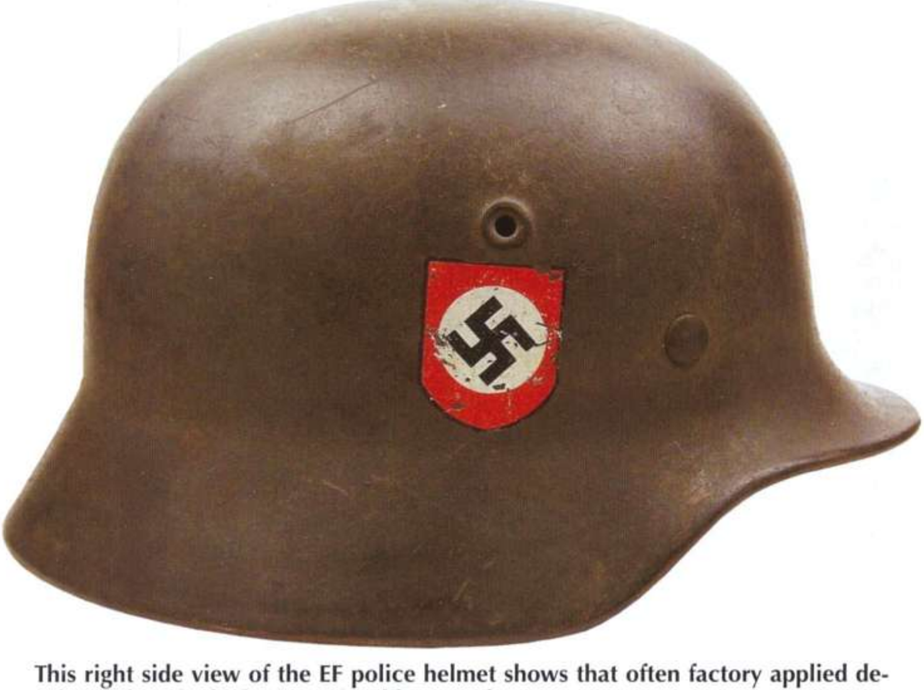
Heinemann
Mstr.der Sch.Pol.

The typed name tag inside the dome indicates an officer's rank of *Meister der Schutzpolizei.*

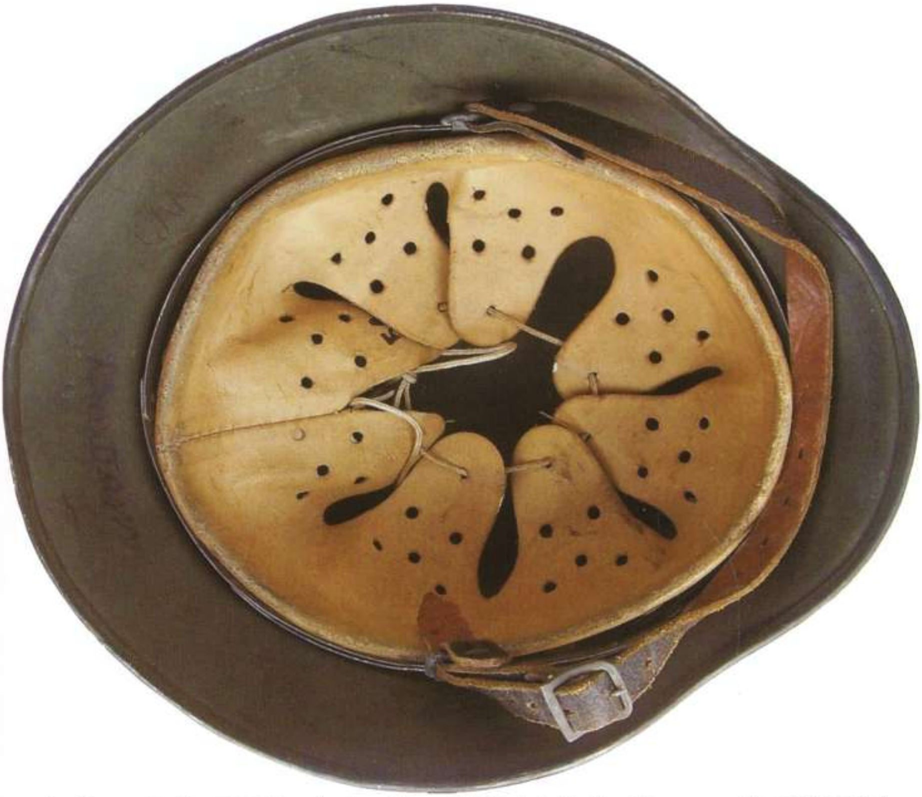
The right side of this helmet further shows the smooth texture "police-*feldgrau.*" SE-produced ◀ helmets which were issued to other branches during the same time were finished in the expected rough texture paint.



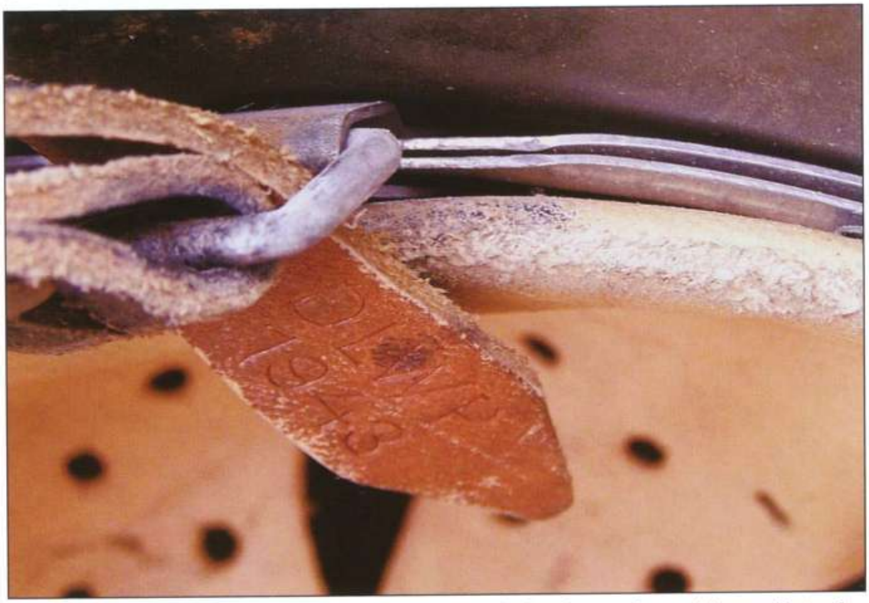
This is a 1943 dated police helmet produced by EF. The painted finish is a dark shade of *feldgrau* and the police decal is a late-war version which lacks the detail found in earlier examples.



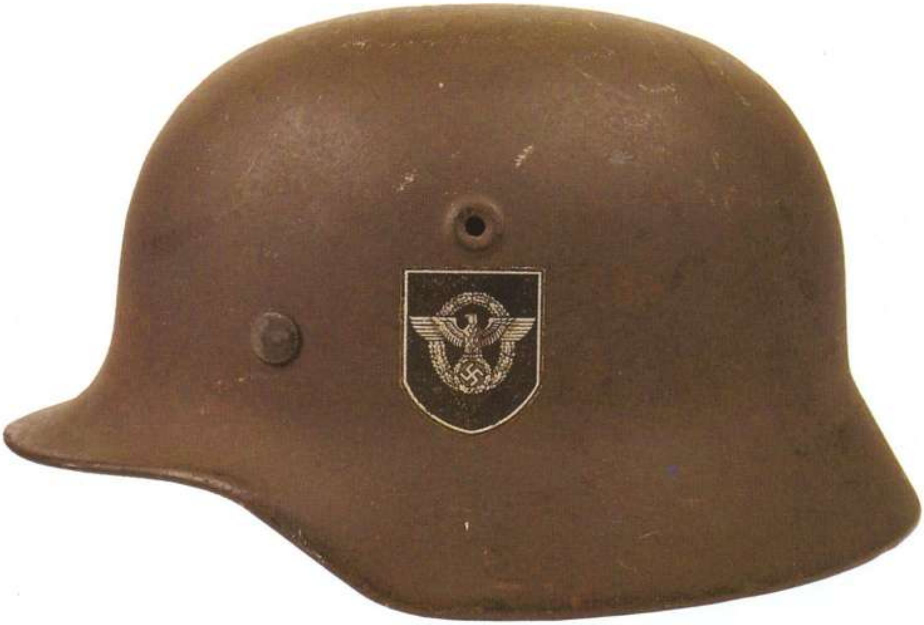
This right side view of the EF police helmet shows that often factory applied decals are found which are noticeably canted.



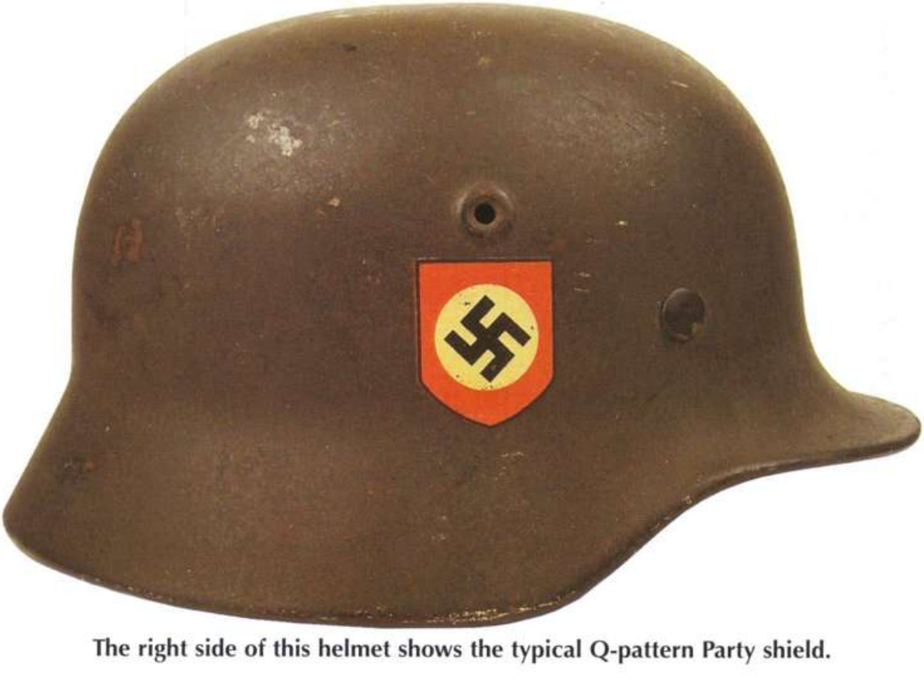
The liner of this EF Police helmet is a 1943 dated aluminum reenforced model produced by Werner Zahn of Berlin.



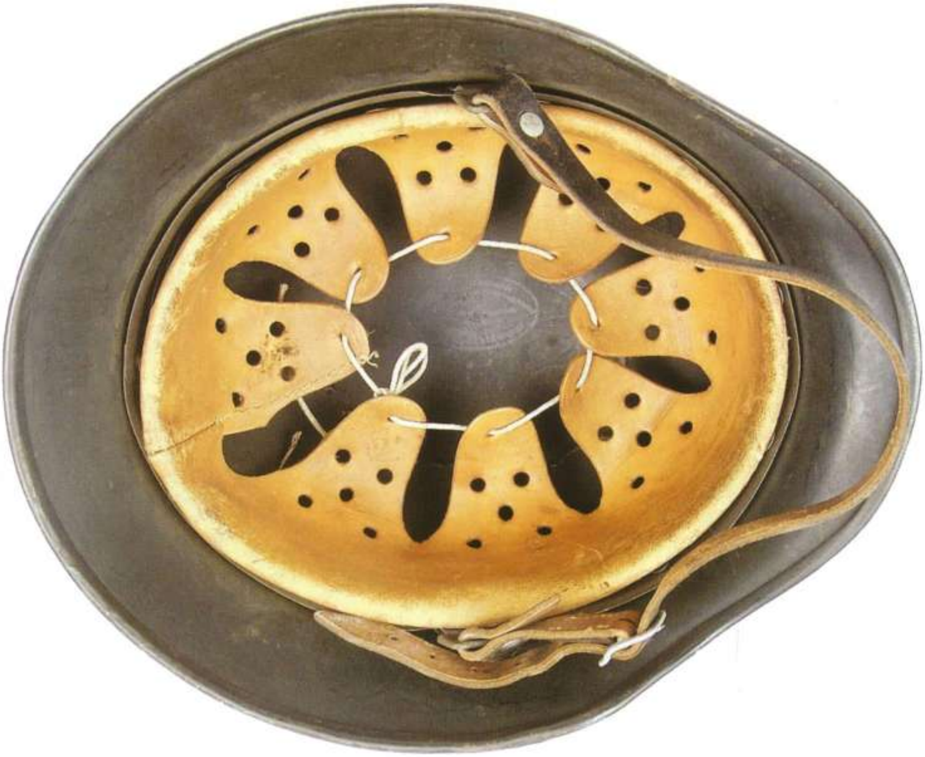
This photo shows the details of the 1943 dated aluminum framed liner. Note the steel wire chinstrap bale and 1943 dated chinstrap.



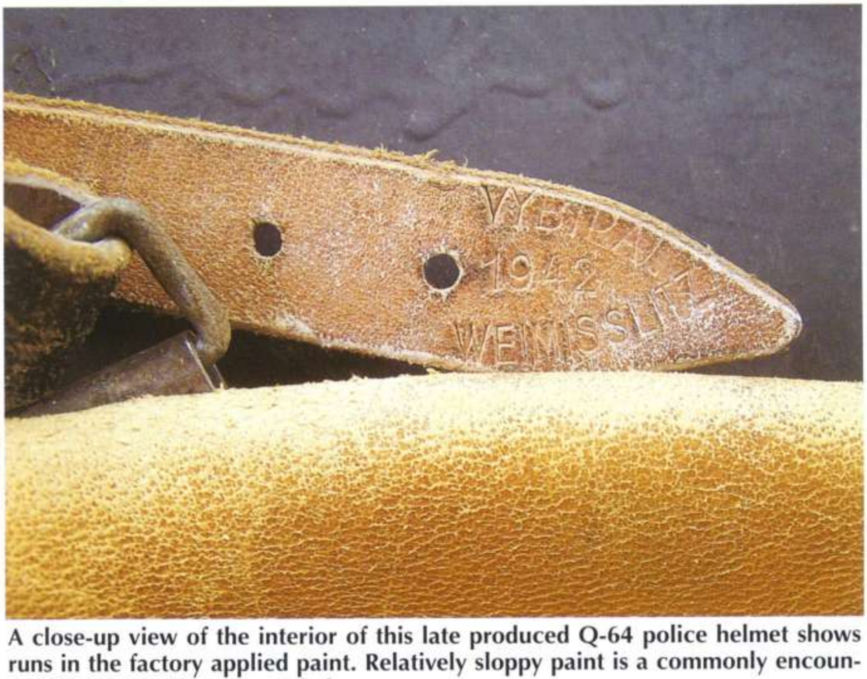
This is an example of a very late-war produced M40 Police helmet manufactured by F.W. Quist. The painted finish is similar in color and texture to all late war produced Quist M40s.



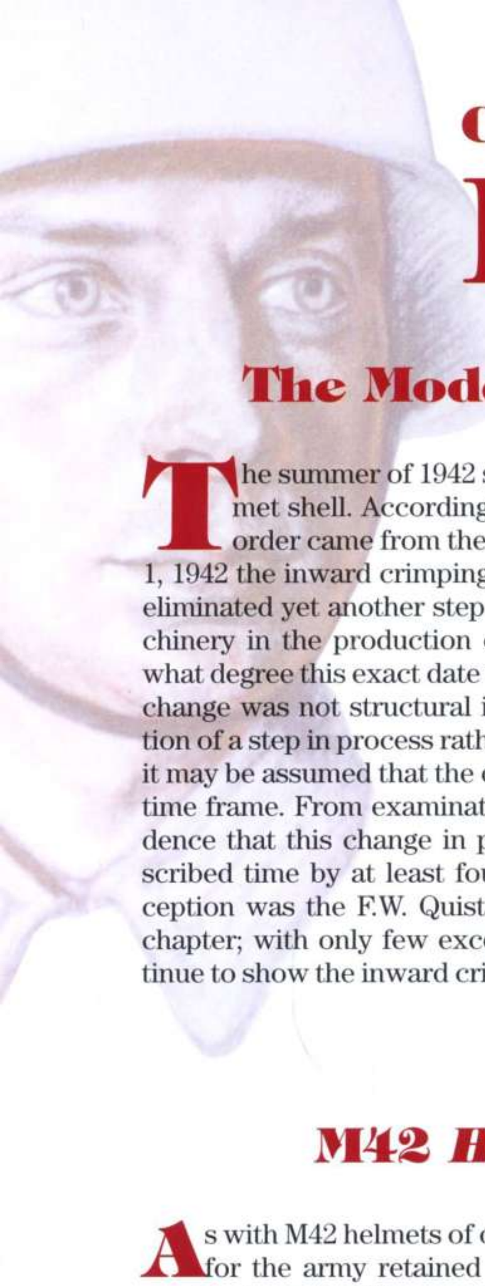
The right side of this helmet shows the typical Q-pattern Party shield.



The liner of this helmet is dated 1944.



A close-up view of the interior of this late produced Q-64 police helmet shows runs in the factory applied paint. Relatively sloppy paint is a commonly encountered feature of late war Q helmets.



Chapter

III

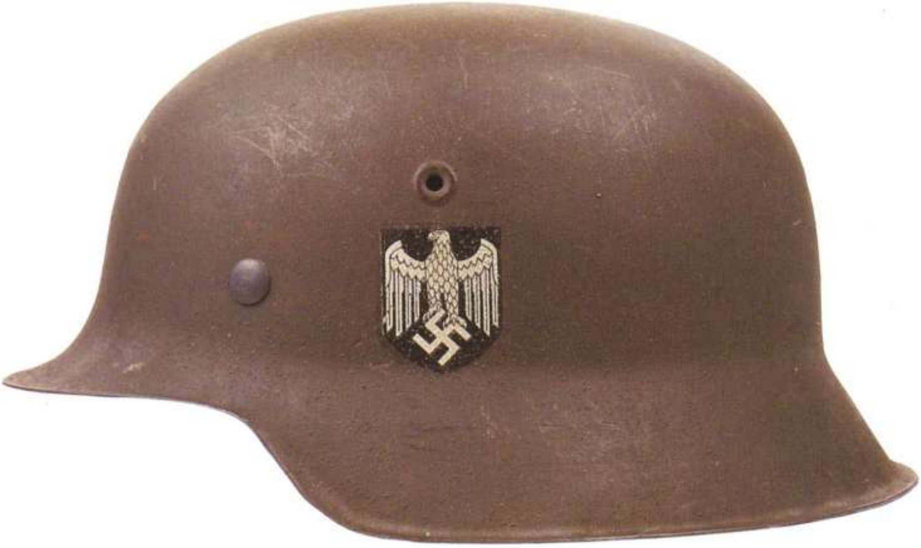
The Model 1942 Helmet

The summer of 1942 saw the final modification of the steel helmet shell. According to archival research of Ludwig Baer, the order came from the German high command that as of August 1, 1942 the inward crimping of the helmet rim was to be halted. This eliminated yet another step in production which saved time and machinery in the production of steel helmets. It cannot be known to what degree this exact date was adhered to by the factories. Since the change was not structural in nature and more involved the elimination of a step in process rather than an addition or alteration of a step, it may be assumed that the order was carried out within a reasonable time frame. From examination of surviving helmets, we can see evidence that this change in production was affected near to the prescribed time by at least four of the five helmet producers. The exception was the F.W. Quist plant at Esslingen. As noted in the last chapter; with only few exceptions, helmets produced by Quist continue to show the inward crimp of the rim until the end of production.

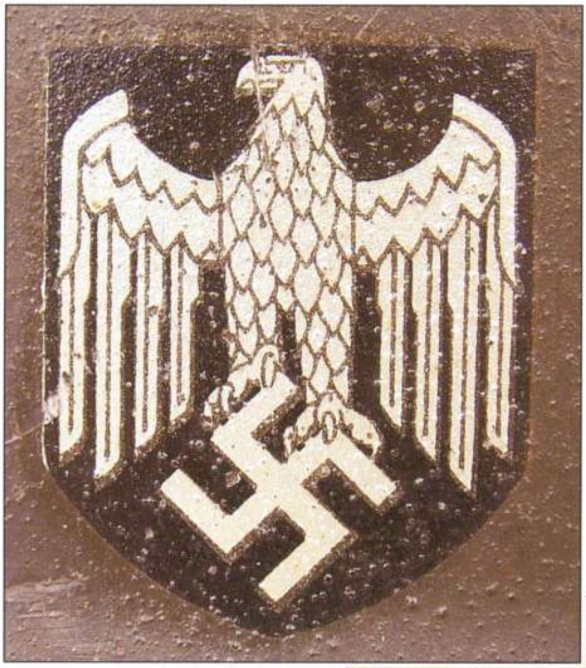
M42 *Heer* Helmets

As with M42 helmets of other branches of service, those produced for the army retained the same paint color trends and decals specific to each of the manufacturers as had been used during the period of M40 helmet production.

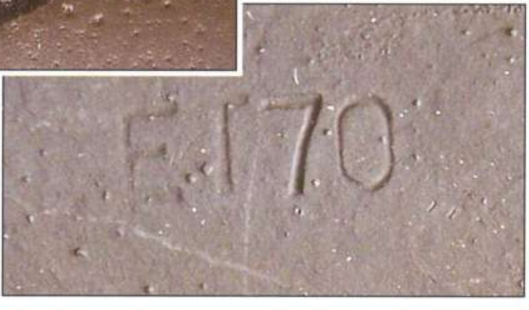
Knight's Cross Holder Karl Radermacher.



This ET helmet remains in near unissued condition. It is an unusually large size, a 70cm shell with a size 62 leather liner. (Courtesy R. Bertschi)

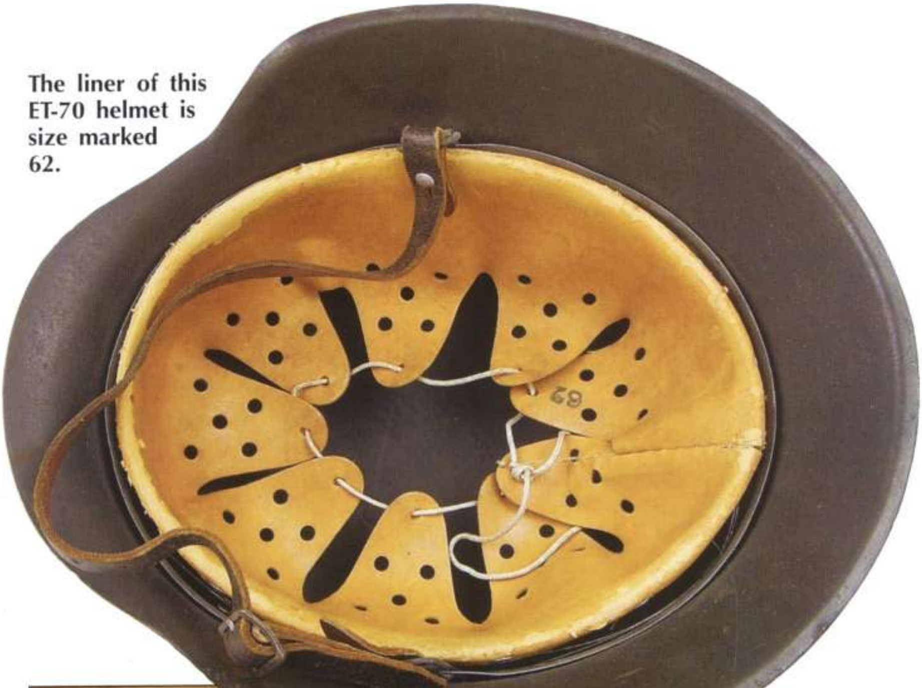


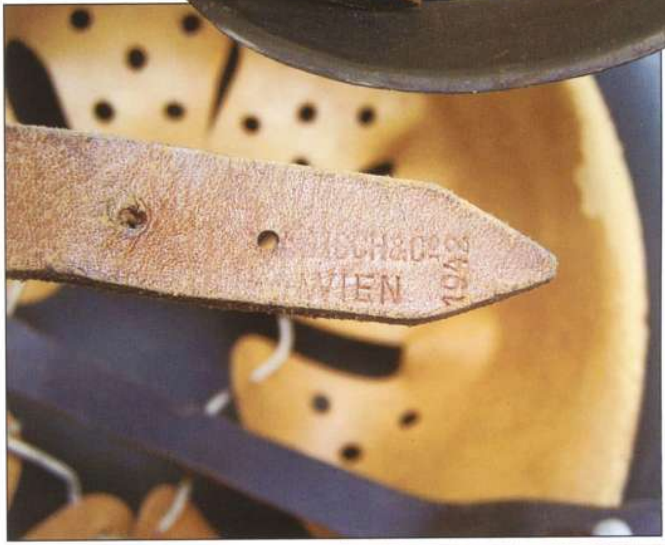
The expected ET style eagle decal is found on the wearer's left.



A close-up of the ET70 maker mark.

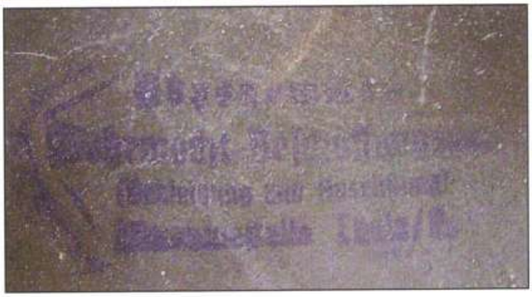
The liner of this ET-70 helmet is size marked 62.

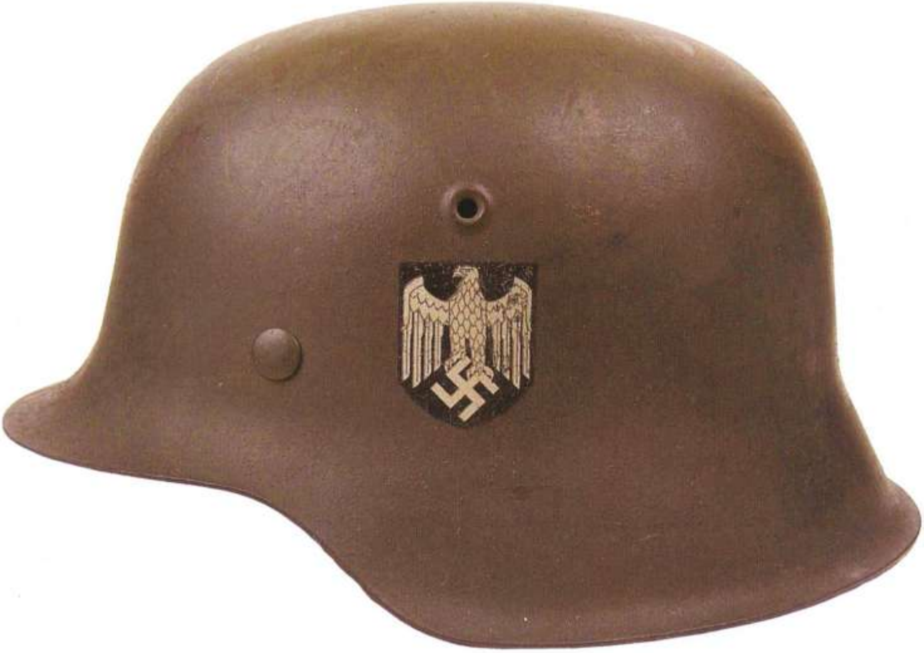




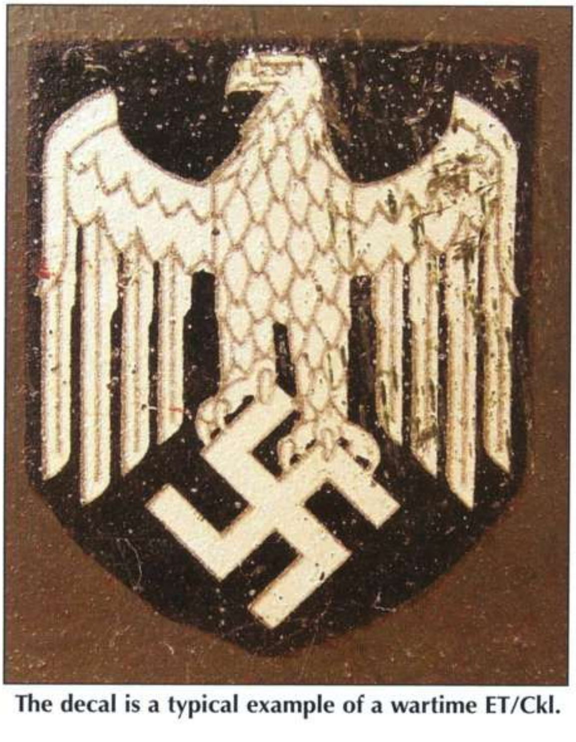
The chinstrap markings on the ET-70 helmet.

The acceptance stamp found on the inside dome of this ET70 helmet is the typical mid-war style used by the ET factory. Note the bottom line reads *"Abnahmestelle Thale / H"* which was the control office of the Thale plant. (Courtesy R. Bertschi)

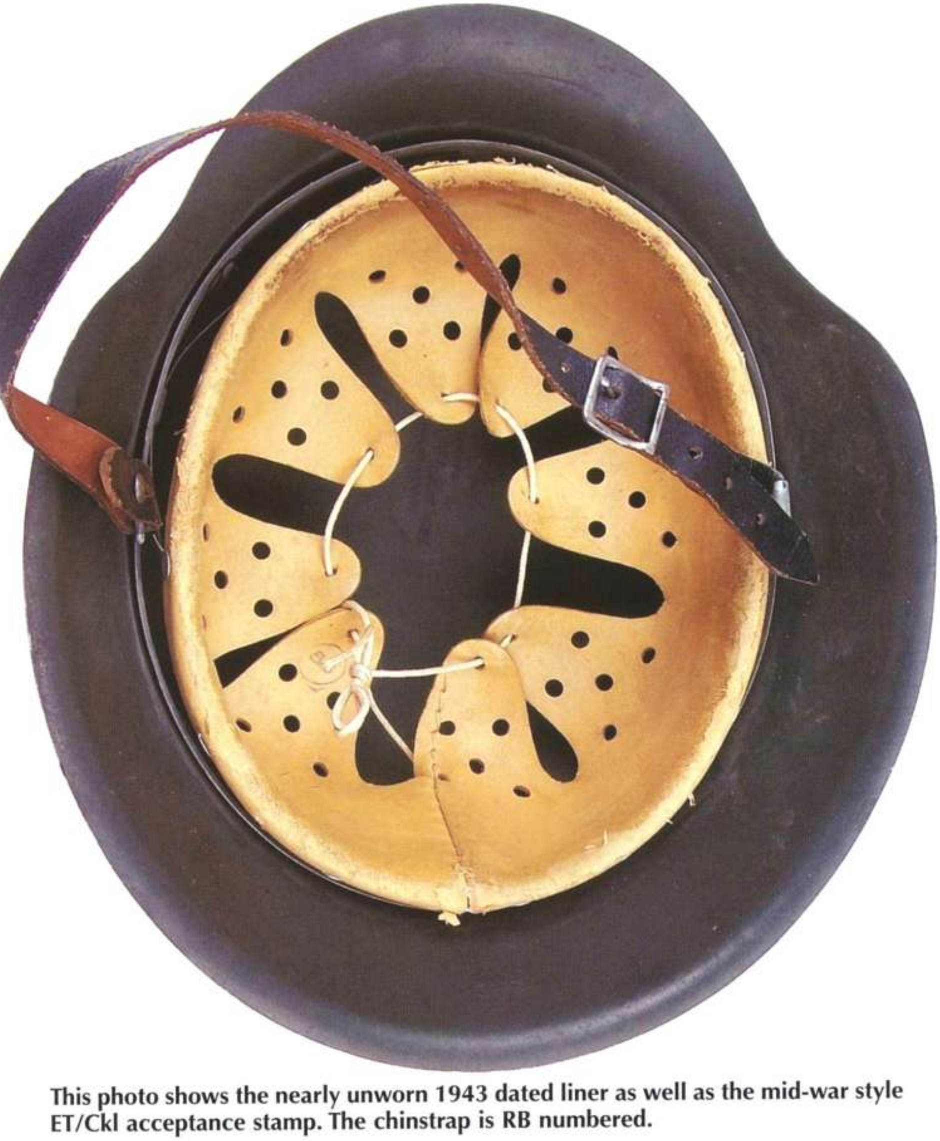




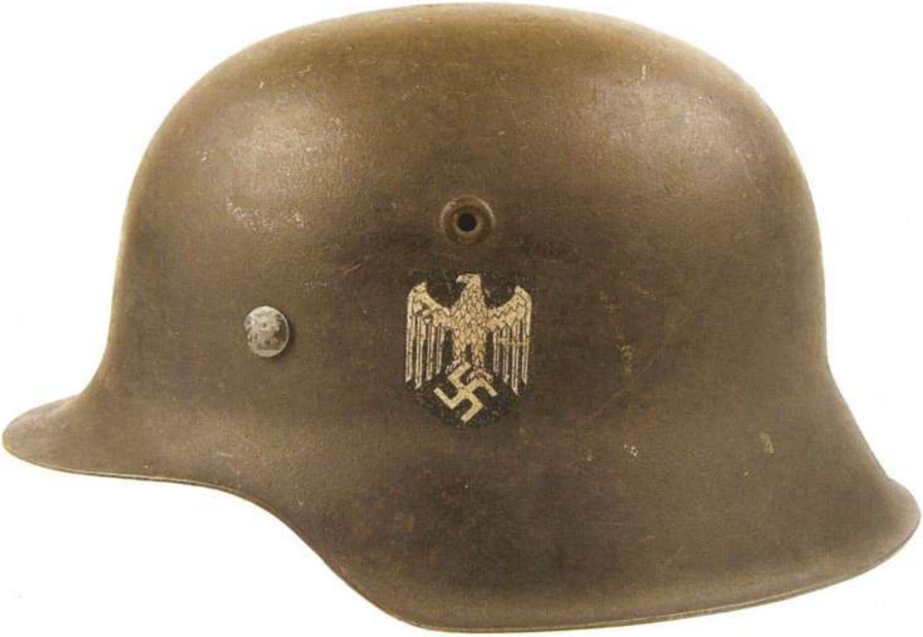
This 1943 dated single decal *Heer* helmet shows an unusually light colored painted finish which has more green tone than normal. It is maker marked "Ckl" which is the code adopted by the Eisenhutten factory in early 1943.



The decal is a typical example of a wartime ET/Ckl.

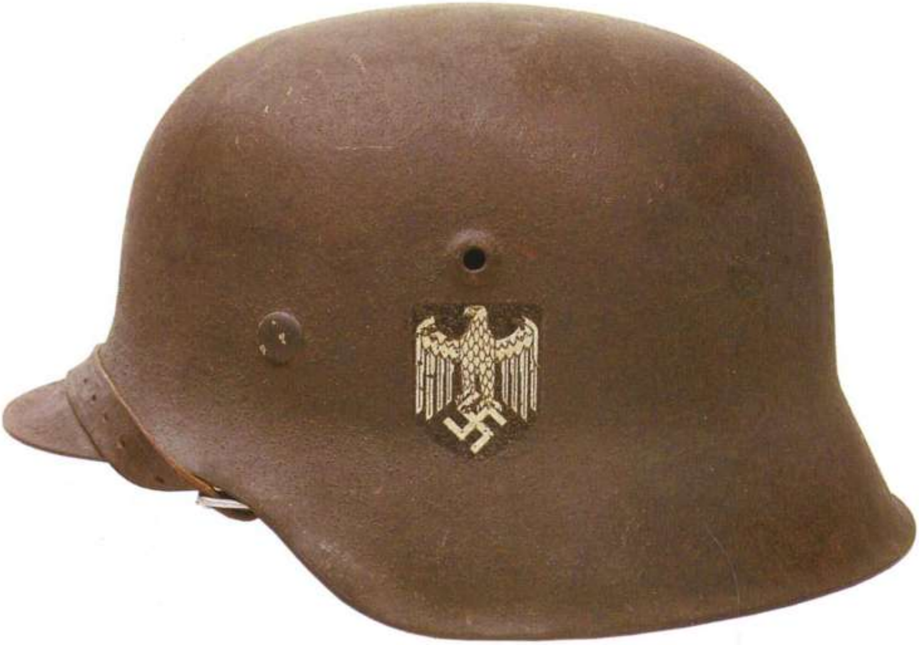


This photo shows the nearly unworn 1943 dated liner as well as the mid-war style ET/Ckl acceptance stamp. The chinstrap is RB numbered.

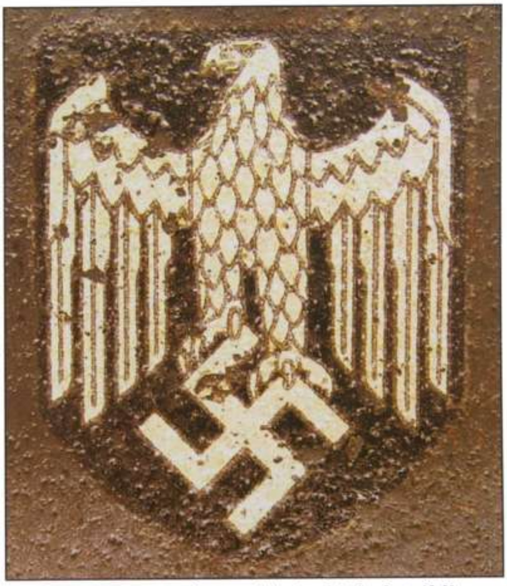


This NS-64 helmet is finished with a dark shade of *feldgrau* and is adorned with a Pocher style eagle decal.

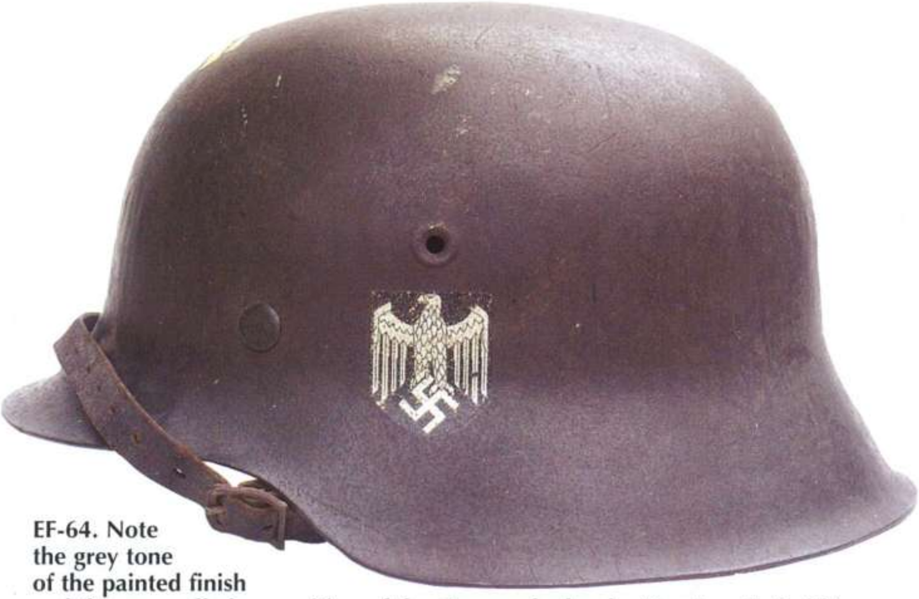
Knight's Cross holder, *Obergefreiter* Beckmann.



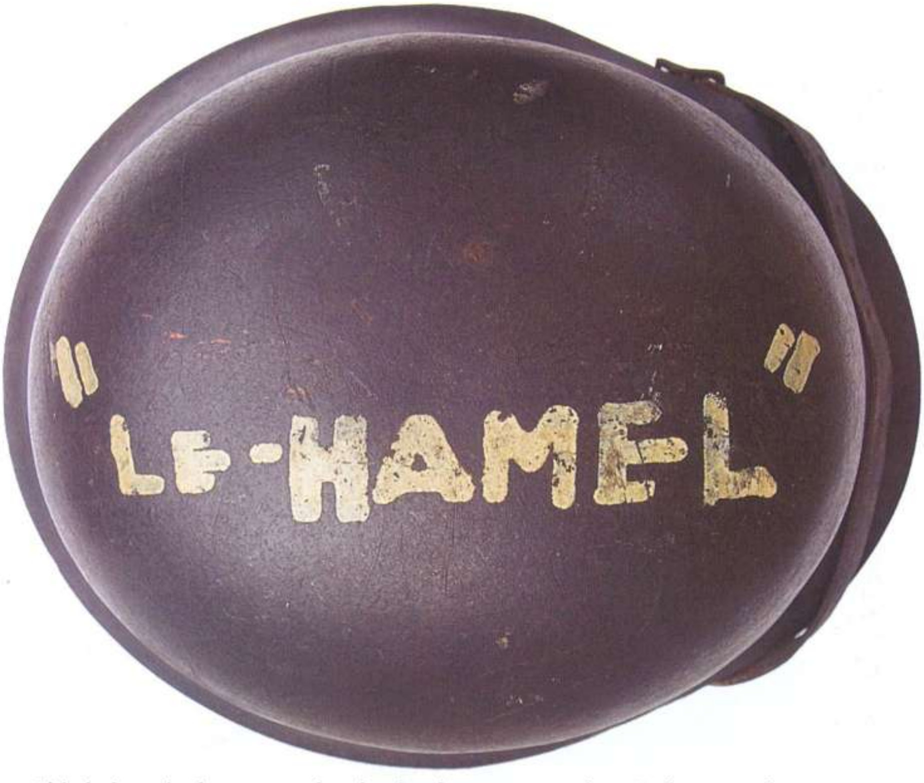
This Hkp-64 helmet shows the rough texture paint which is typical of this maker. The liner bears a date of 1942. The helmet was produced by Sachsische Emailler und Stanzwerke A.G. which formerly marked its products with the SE maker code. This maker code was changed in 1942 some time prior to the switch-over from M40 to M42 shell production (examples of Model 40 helmets are found bearing the Hkp maker mark). The following year ET similarly changed their maker code from ET to Ckl. The other makers continued to mark their helmets with the same maker codes (Q, NS and EF) until the end of production.



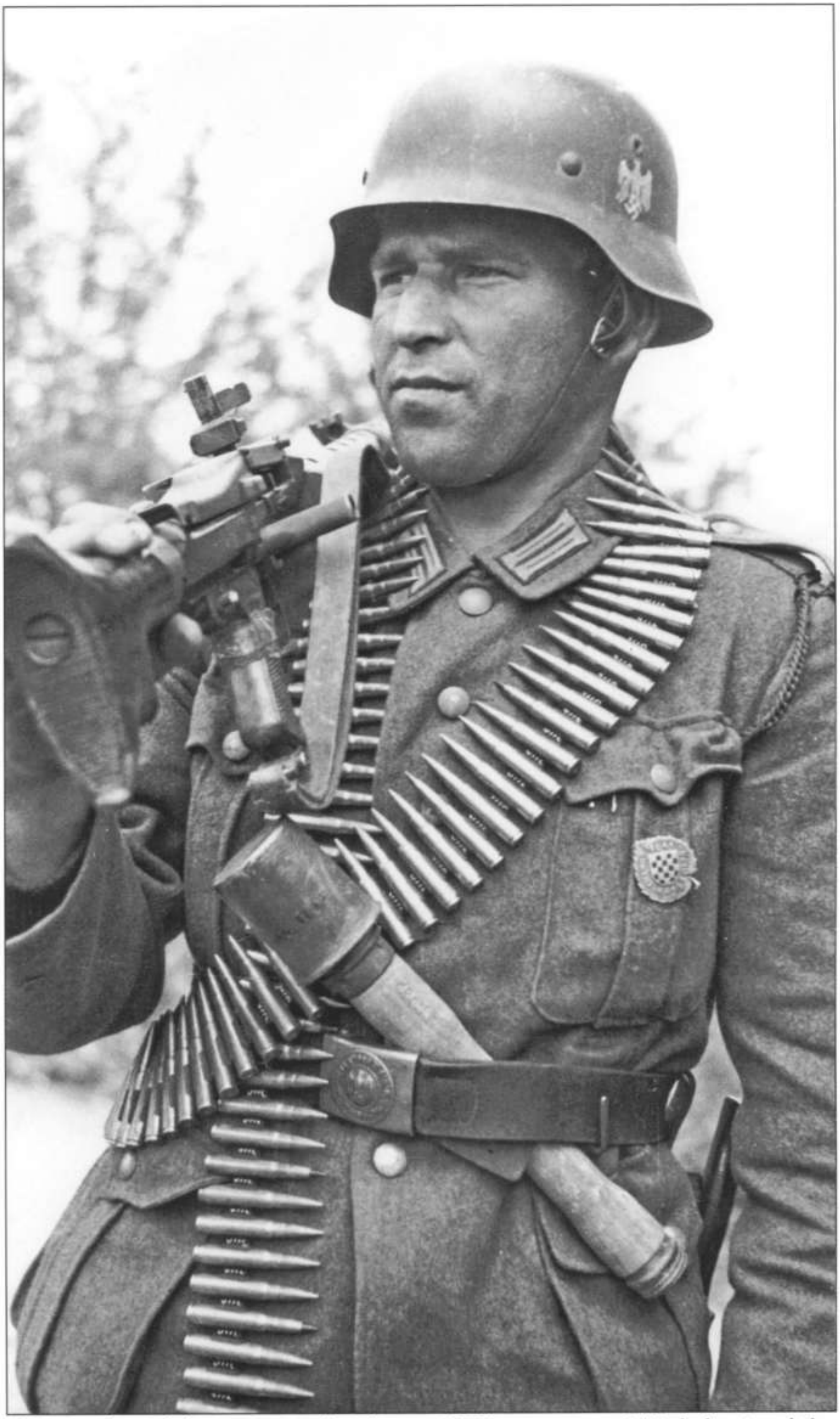
The decal found on this Hkp M42 shows fairly thick detail lines and may be an ET variant.



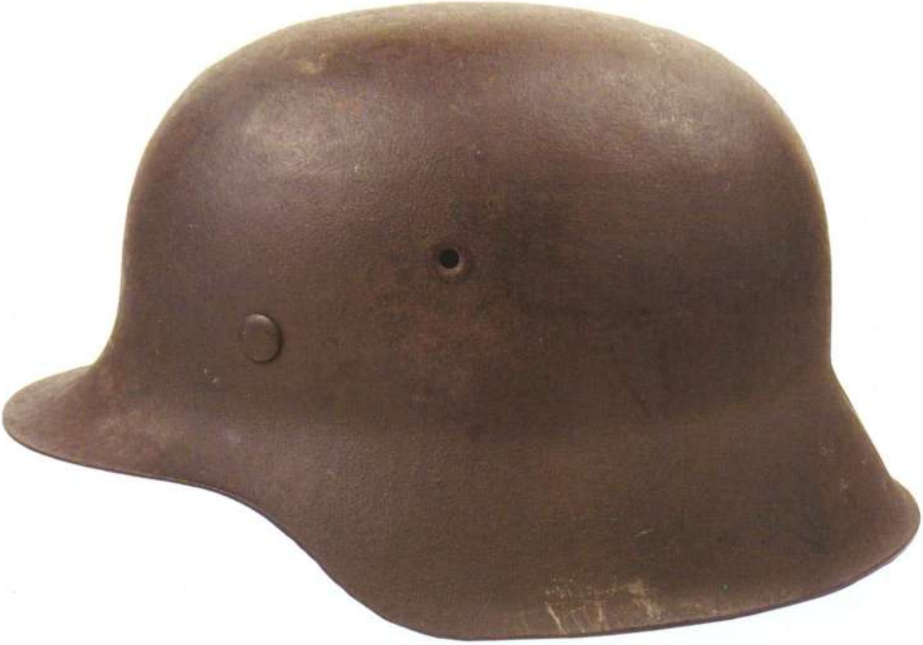
EF-64. Note the grey tone of the painted finish and the unusually low position of the *Heer* eagle decal. (Courtesy B. Smith)



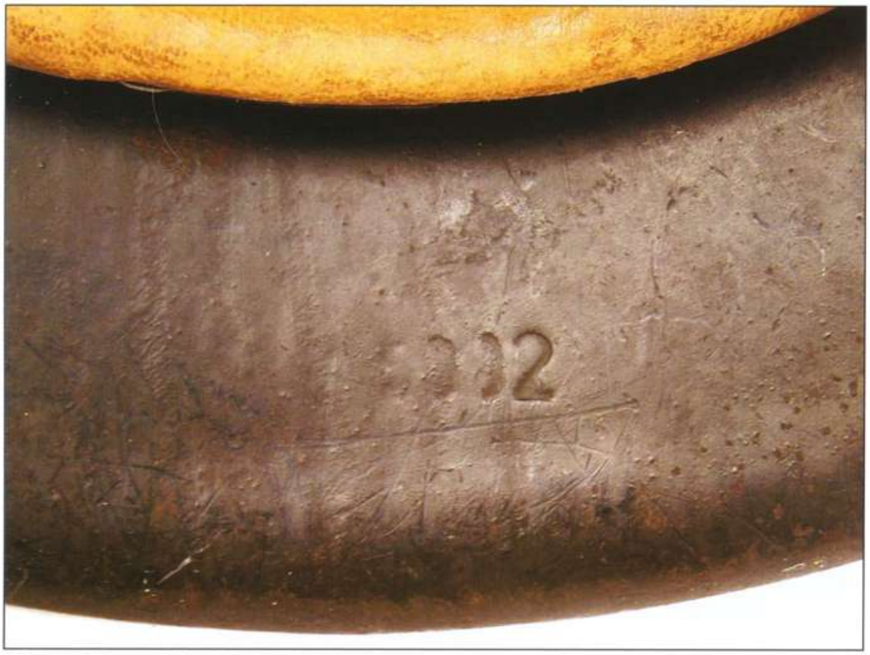
This helmet is documented as having been captured on D-day near the Norman village of Le Hamel (Courtesy B. Smith)



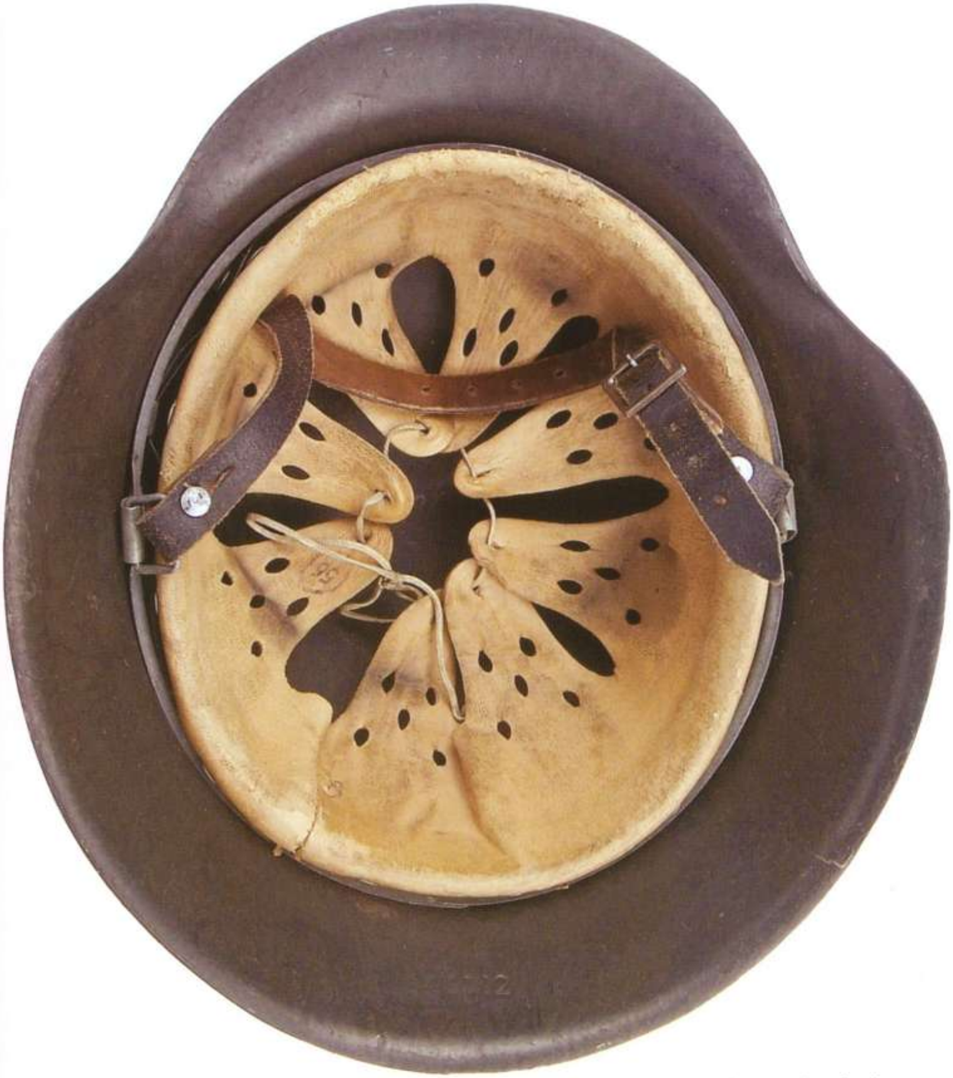
This member of the Croat 369th Infantry Division wears an M42 helmet and the Croat Legion Commemorative Badge on his left breast pocket.



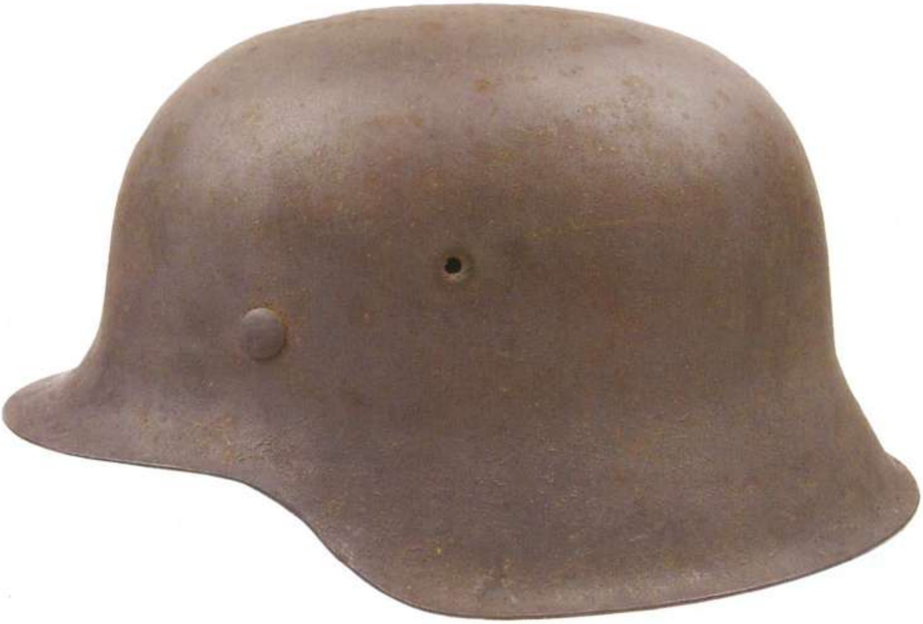
In August 1943 the final change was ordered that would significantly alter the appearance of helmets that left the factory. Decals were no longer to be applied to helmets for issue to the Army. By the end of the year, *Luftwaffe, Kriegsmarine* and SS helmets would no longer be issued with service insignia. The above EF-64 M42 helmet is typical of that which would be issued until the end of the war.



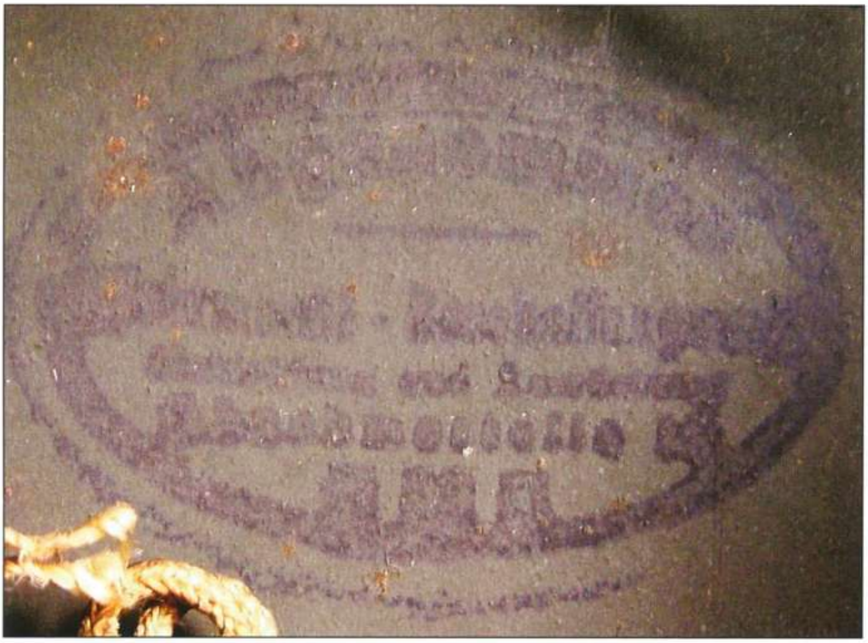
The maker mark is all but obscured in the rear skirt of this EF-64 helmet. The steel lot numbers are faint due to weak striking which is often seen in EF helmets.



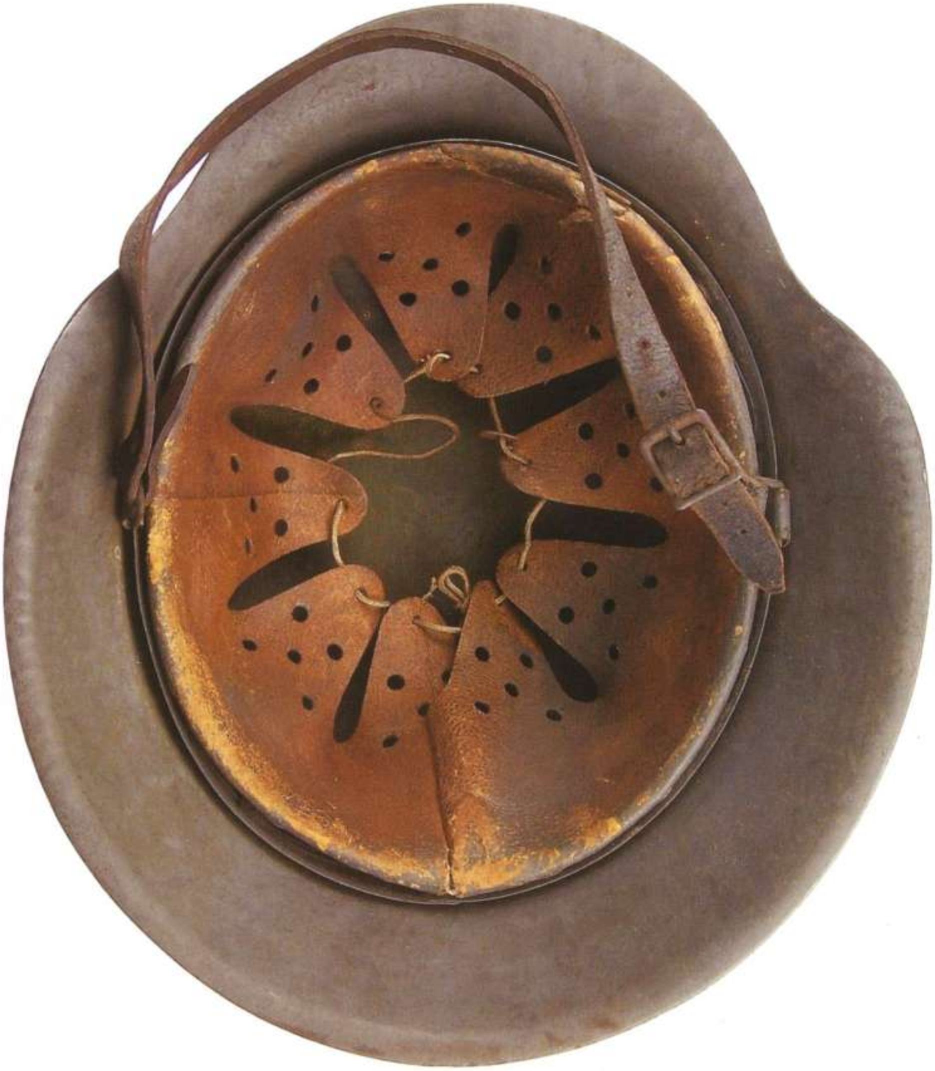
A view of the liner of this helmet shows slight stretching in the drawstring holes. This is an indication that the helmet has seen considerable wear. The liner frame bears a manufacture date of 1944.



This size 68 M42 helmet has the rarely encountered maker marking "qvl" stamped into the rear inside rim. The helmet was factory finished in medium *feldgrau* but was later over-painted with a coat of "battleship-grey," possibly for use by the *Kriegsmarine.*



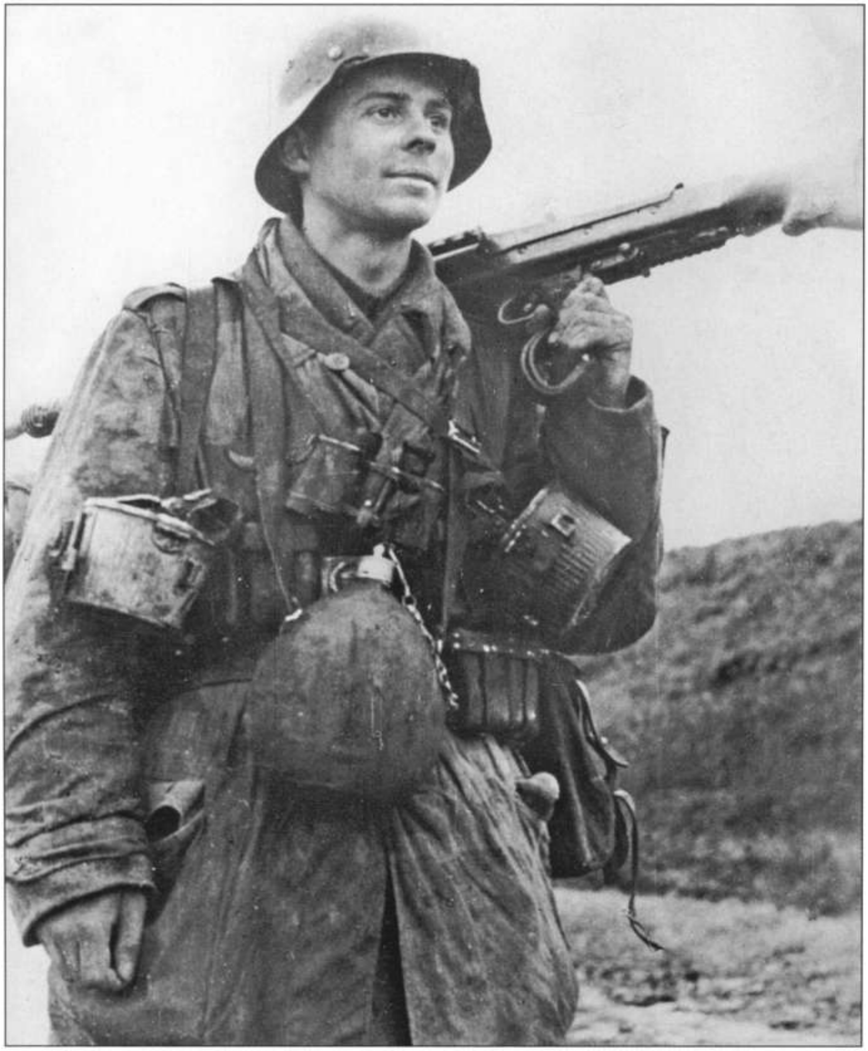
The acceptance stamp which is found inside the dome of the qvl-68 helmet. Very little is known about the qvl manufacturer but the acceptance stamp is identical to those found in 1943-44 dated Ckl manufactured helmets suggesting the possibility of a close relationship to the Eisenhutten factory at Thale.



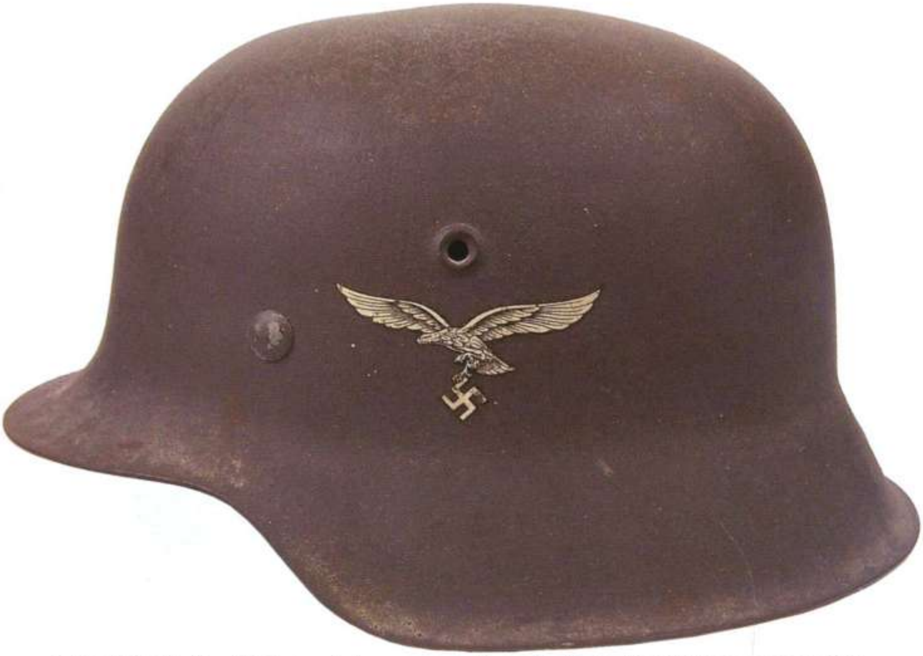
This inside view of the qvl-68 helmet shows that grey paint has been hastily applied to the inside rim. This grey paint has spilled onto the leather. The acceptance stamp is still visible inside the dome which remains in the factory applied *feldgrau.* The liner frame is dated 1943 and the liner itself is made from three pieces of leather that have been laminated together.

M42 *Luftwaffe* Helmets

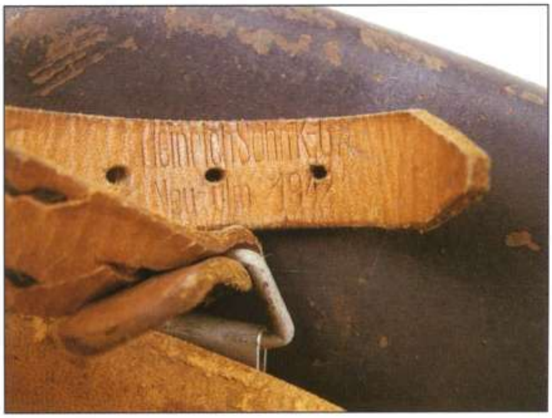
Production of helmets for the *Luftwaffe* remained fairly high in 1942 when Hitler had authorized the creation of *Luftwaffe* infantry units in order to add weight to the fighting forces which were already active on two fronts. These field divisions were to be composed of excess air-crews and ground personnel. By the next year, twenty-two divisions had been formed. The majority of these formations were annihilated in Russia, yet on the home front, the demand for helmets to be worn by the growing number of Flak gunners remained constant.



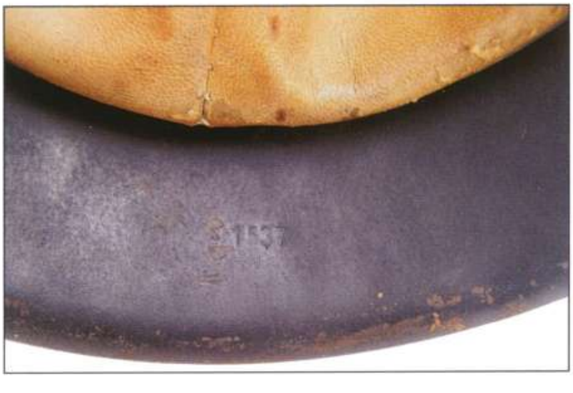
A member of a *Luftwaffe* field division at the Nettuno bridgehead. (Courtesy George A. Petersen)



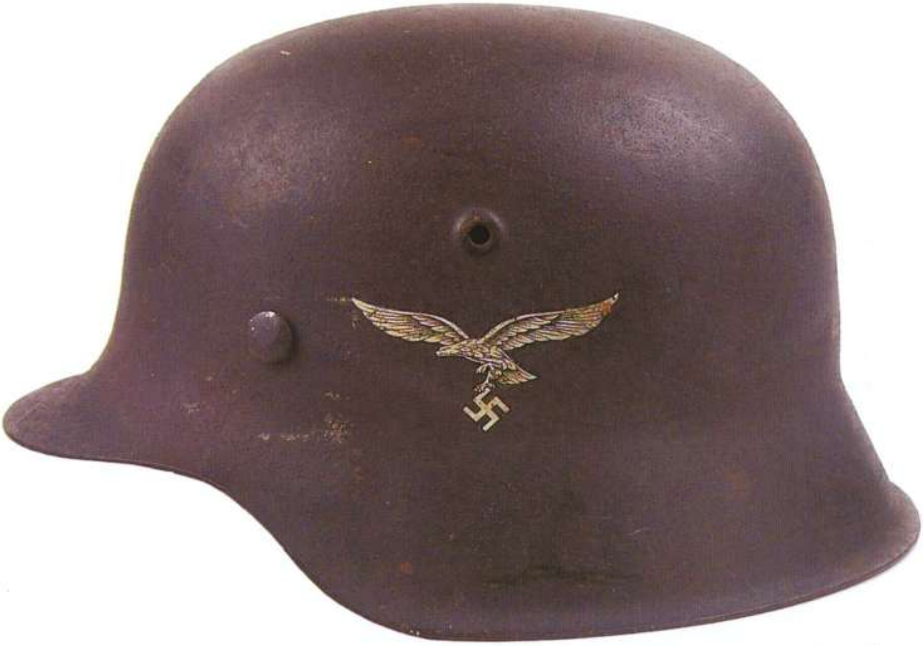
This ET-66 *Luftwaffe* helmet shows a medium shade *Luftwaffe* blue-grey paint.



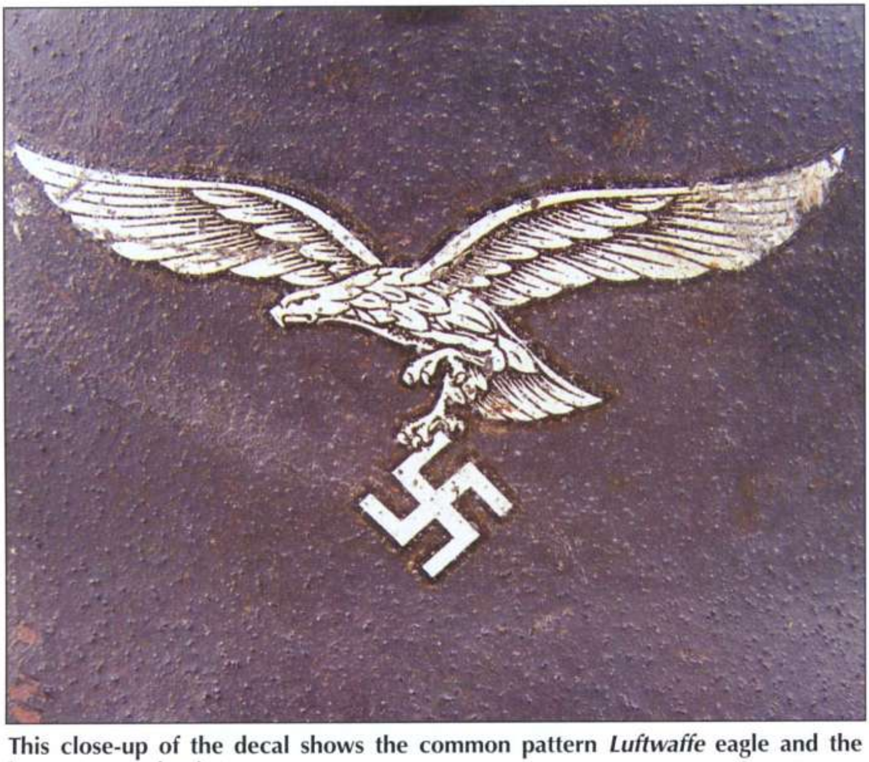
The chinstrap details of this M42 ET *Luftwaffe* helmet.



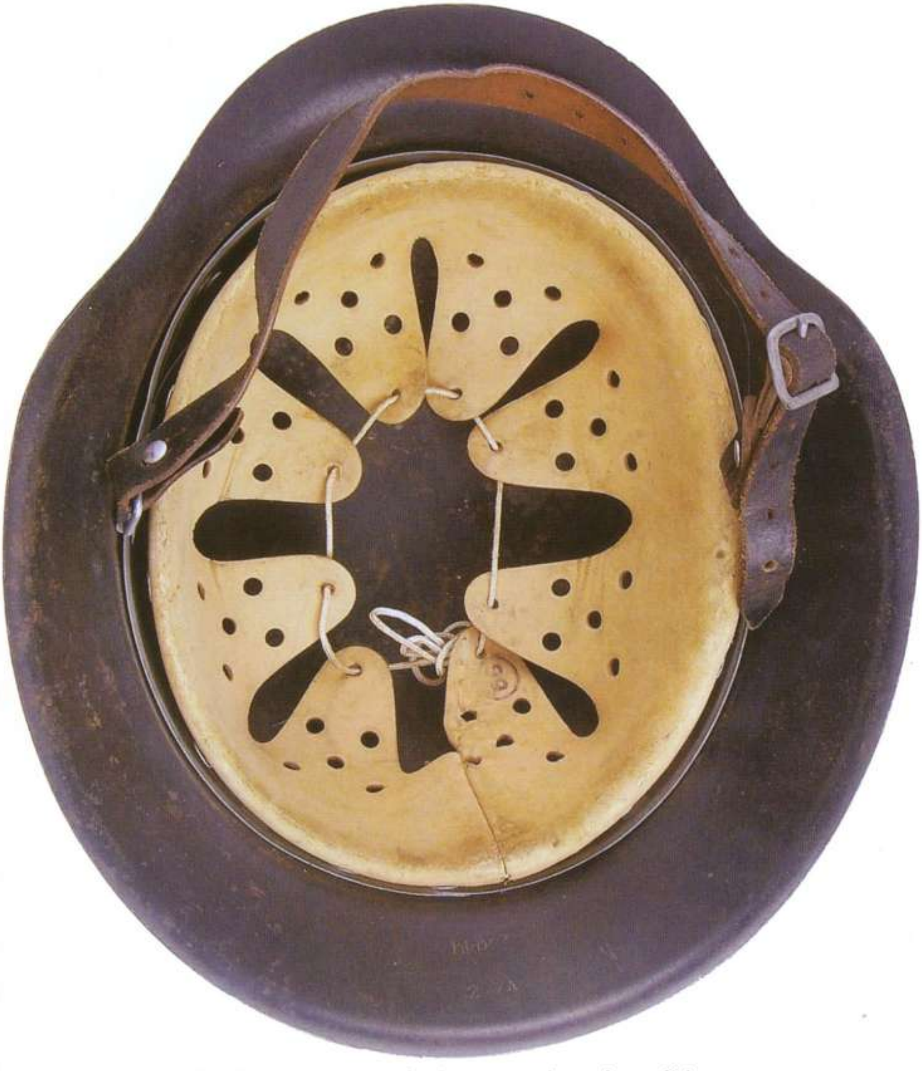
The ET steel lot number (1537) appears to correspond to the 1942 date of the liner.



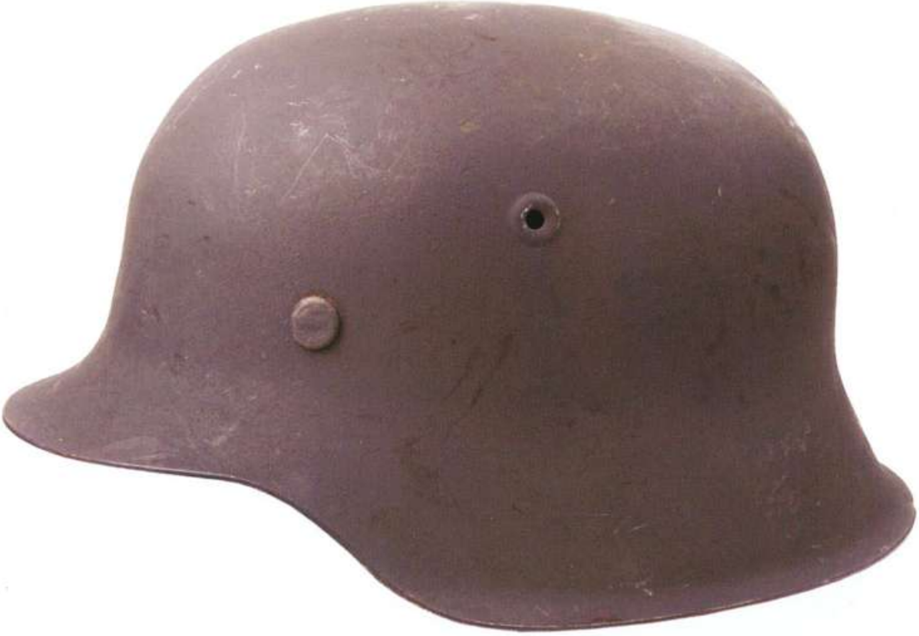
Hkp-64 M42 *Luftwaffe* helmet. The painted finish is dark blue-grey and is heavily textured as are most Hkp wartime helmets.



This close-up of the decal shows the common pattern *Luftwaffe* eagle and the heavy textured paint.



The liner appears to be in near unissued condition.



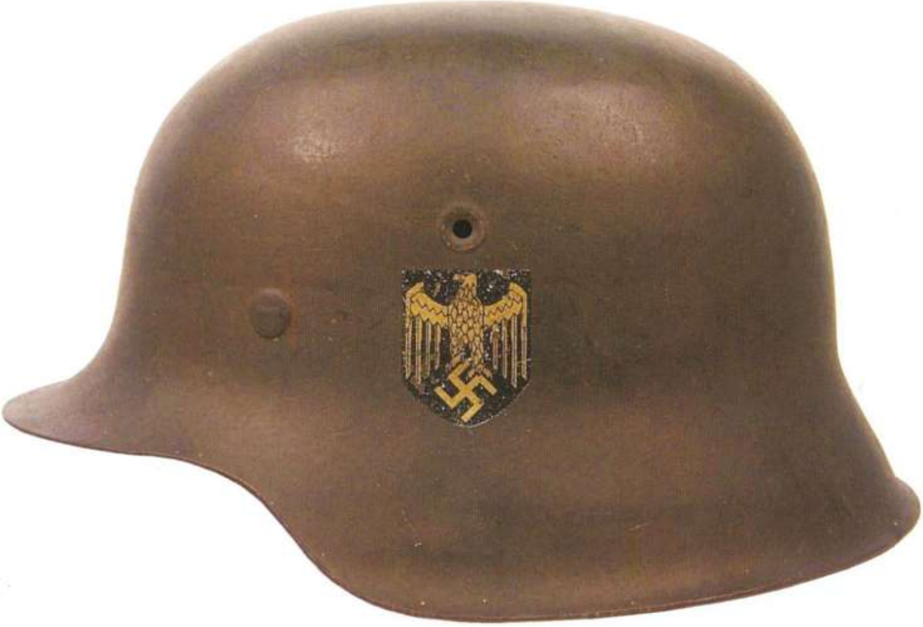
NS-66. This is a rare example of a Model 42 *Luftwaffe* helmet which was issued without insignia. The vast majority of *Luftwaffe* helmets encountered will have the decal applied. It is not known why the number of non-decaled helmets is so much fewer than *Heer* non-decal types. One theory is that the *Luftwaffe* was actually a shrinking organization by 1943 and fewer helmets were being ordered by the *Luftwaffe* procurement office. Another possibility is that most *Luftwaffe* personnel were not considered front-line troops and hence were less restricted by the 1943 order to cease the issuing of decaled helmets. Yet another theory which deserves consideration is that the non-decaled *feldgrau* painted helmet was becoming more and more the universal issue helmet used by all branches of service, including the *Luftwaffe*.

This acceptance stamp found in the dome of the NS-produced non-decal *Luftwaffe* helmet is typical of those applied at the acceptance office in Schwerte.

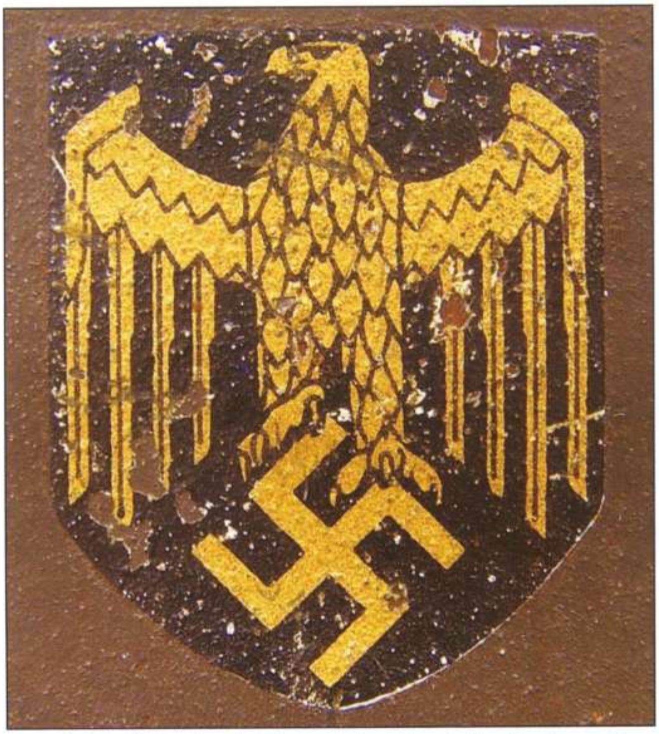
Kriegsmarine Model 42 Helmets

Although the German Navy was no longer a growing institution by the mid-war years, the *Kriegsmarine* still held control of most of the vast network of coastal artillery positions along the shores of the occupied countries. This network was a significant part of Hitler's "Atlantic Wall." Personnel manning these positions continued to be supplied through navy channels. The number of *Kriegsmarine* troops was by no means insignificant but certainly paled in comparison to the other branches of service. It is interesting to note that post-1940 *Kriegsmarine* helmets are mostly found to be of EF manufacture. Most likely the number of naval helmets ordered during this period (1940-43) was limited enough that the awarding of contracts to a single producer was sufficient to meet the needs of the navy procurement office.

Coastal defenses on the Atlantic Wall.

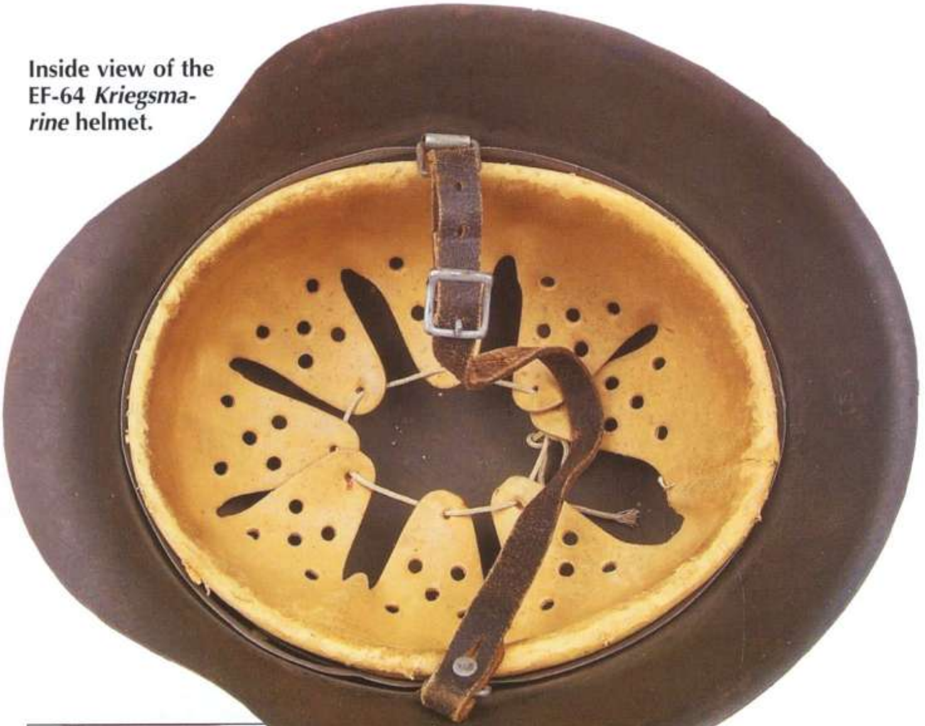


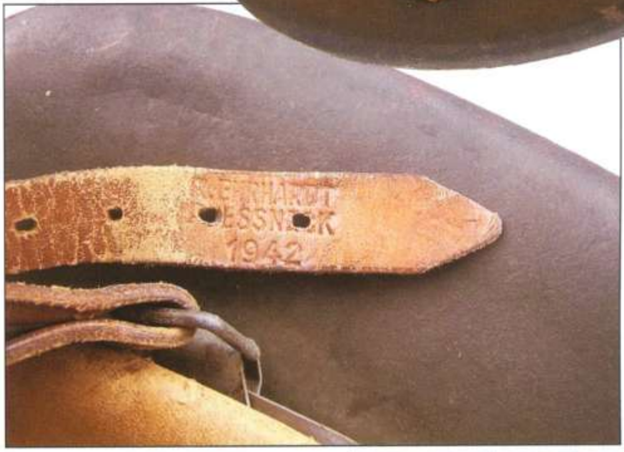
An EF-64 helmet with a late-war "thin wing" *Kriegsmarine* decal. (Courtesy K. Kithier)



This close-up of the "thin-wing" *Kriegsmarine* decal clearly shows the white underlying layer in the damaged areas.

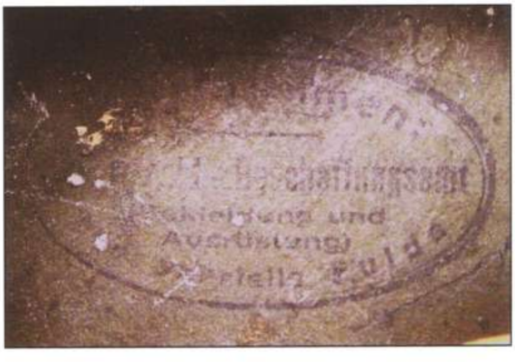
Inside view of the EF-64 *Kriegsmarine* helmet.

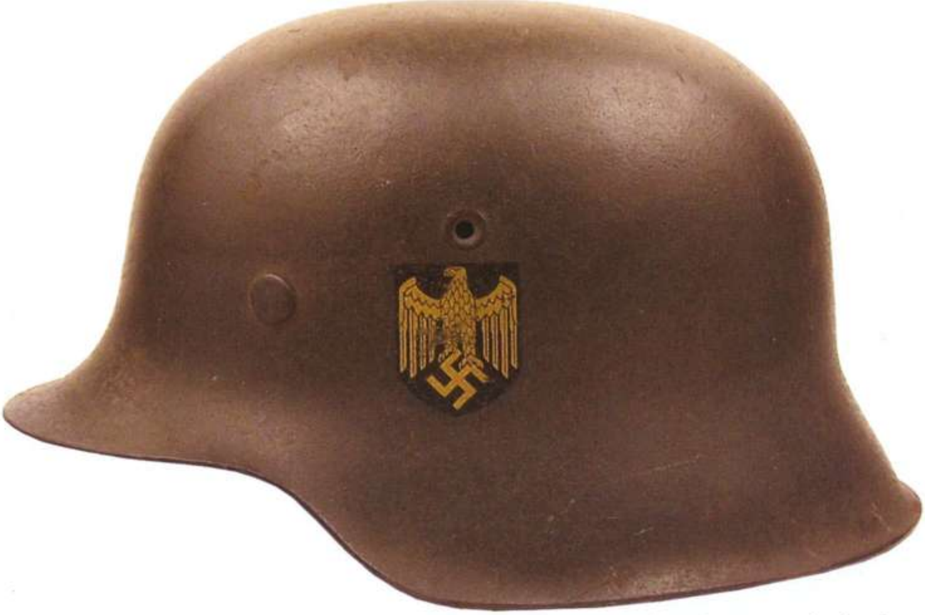




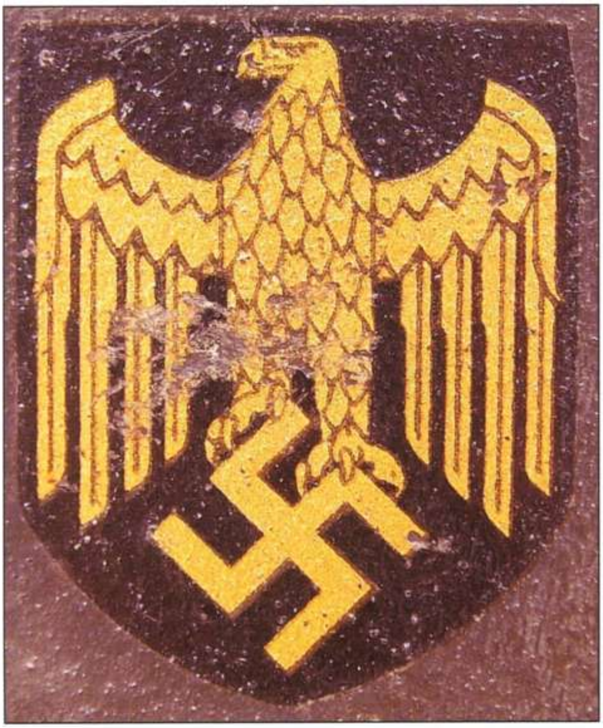
This photo clearly shows the 1942 dated chinstrap.

This example is marked with the EF style acceptance stamp. The location of the acceptance office is shown as the city of Fulda which was the location of the EF factory.





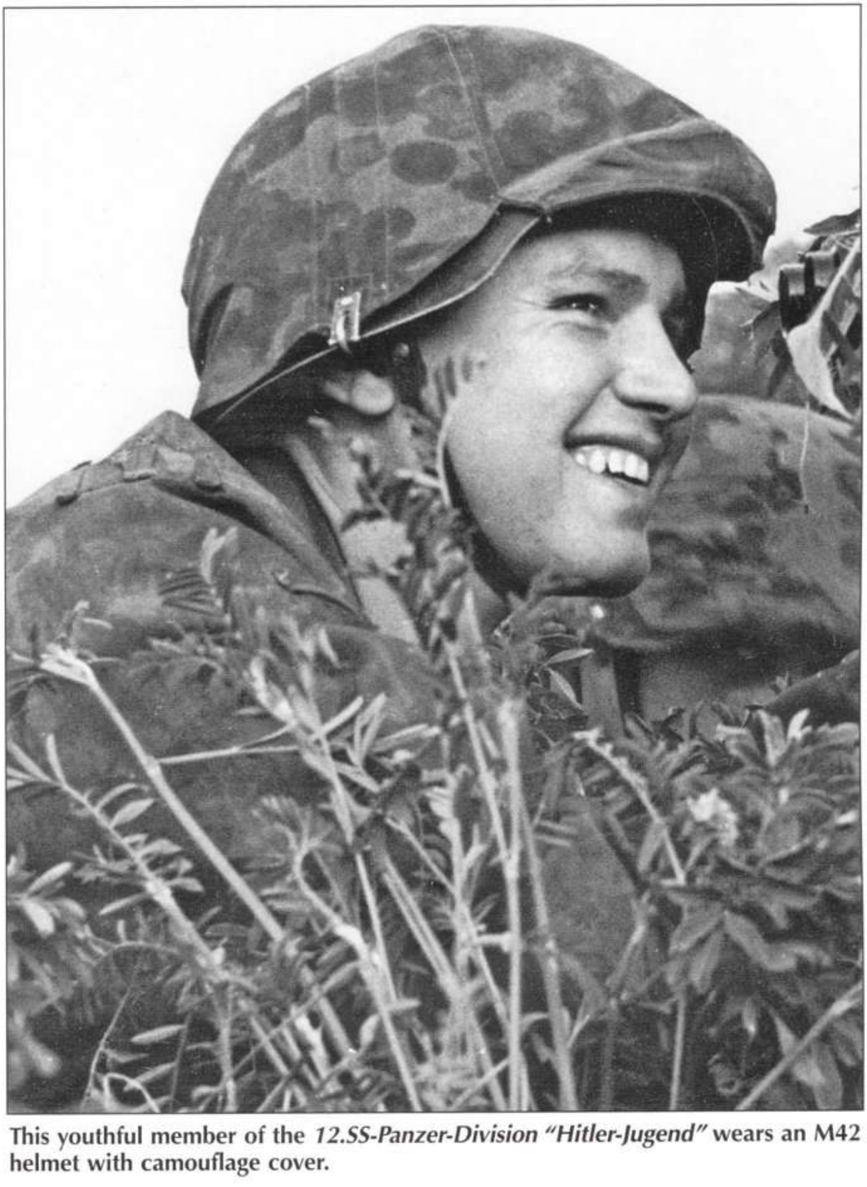
Another EF M42 *Kriegsmarine* helmet. This one has an early style KM eagle decal applied.



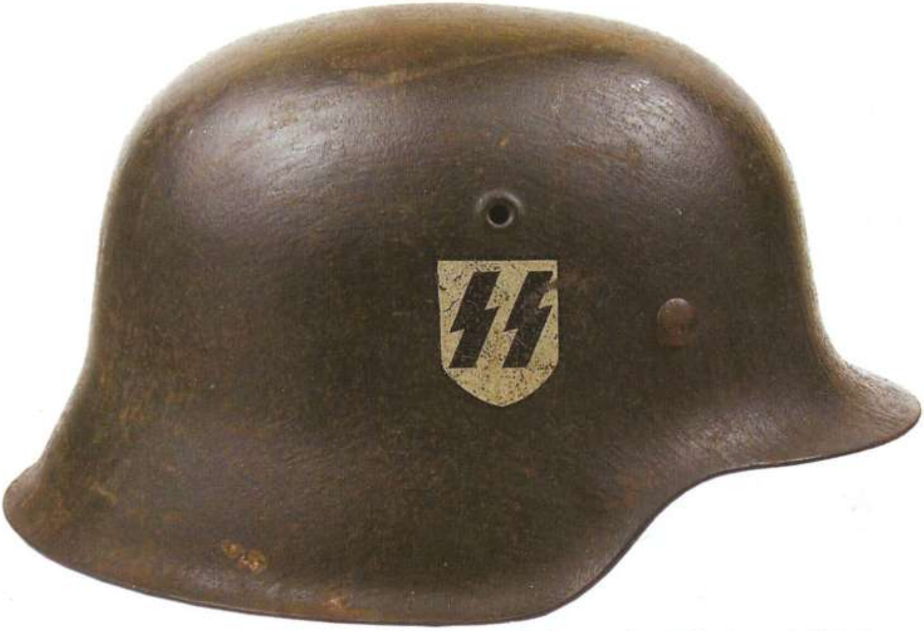
This close-up photo shows the details of the gold *Kriegsmarine* decal which is normally found on earlier helmets. The border indicating the layered construction is subdued due to the application over textured paint. The decal is identical to the ET style *Heer* decal.

Waffen-SS M42 Helmets

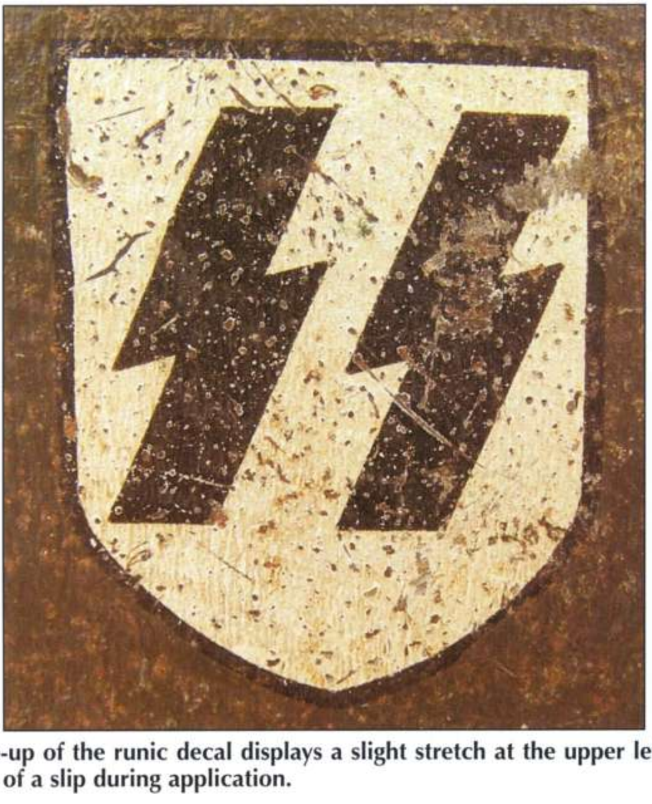
The *Waffen-SS* grew considerably in the later war years and thus, although decal application was ordered halted eighteen months after the advent of the Model 42, a significant percentage of all *Waffen-SS* helmets are M42s. The paint colors generally remained the same as those of the 1940 model and varied slightly according to maker but were the same colors as used on *Heer* and *Kriegsmarine* helmets until the end of production.



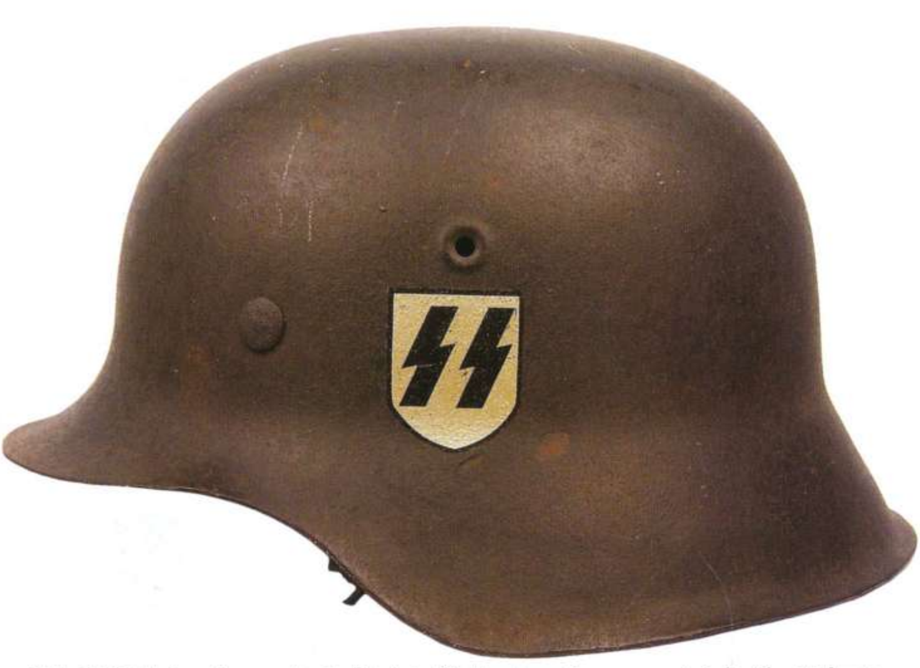
This youthful member of the *12.SS-Panzer-Division "Hitler-Jugend"* wears an M42 helmet with camouflage cover.



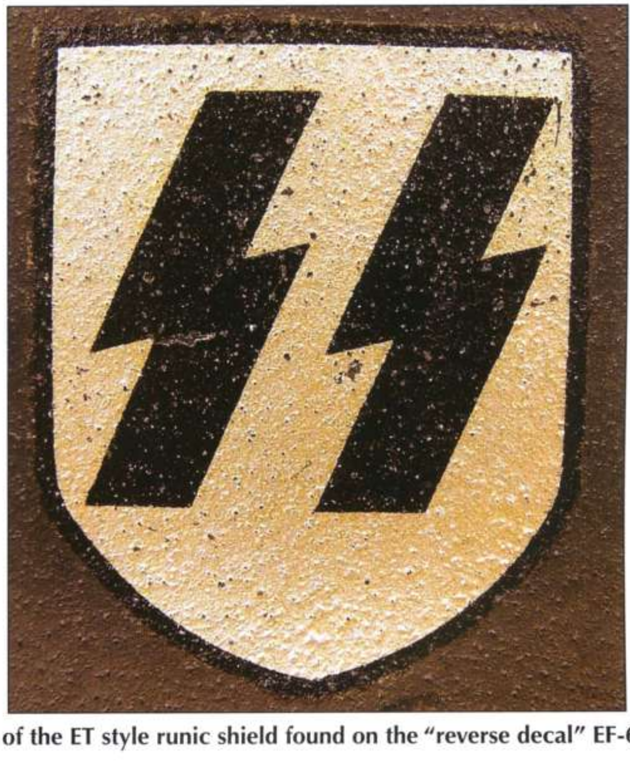
This is perhaps the most typical of late war SS helmets. The Ckl helmet shell is finished in a dark shade of *feldgrau* with a classic ET pattern runic shield.



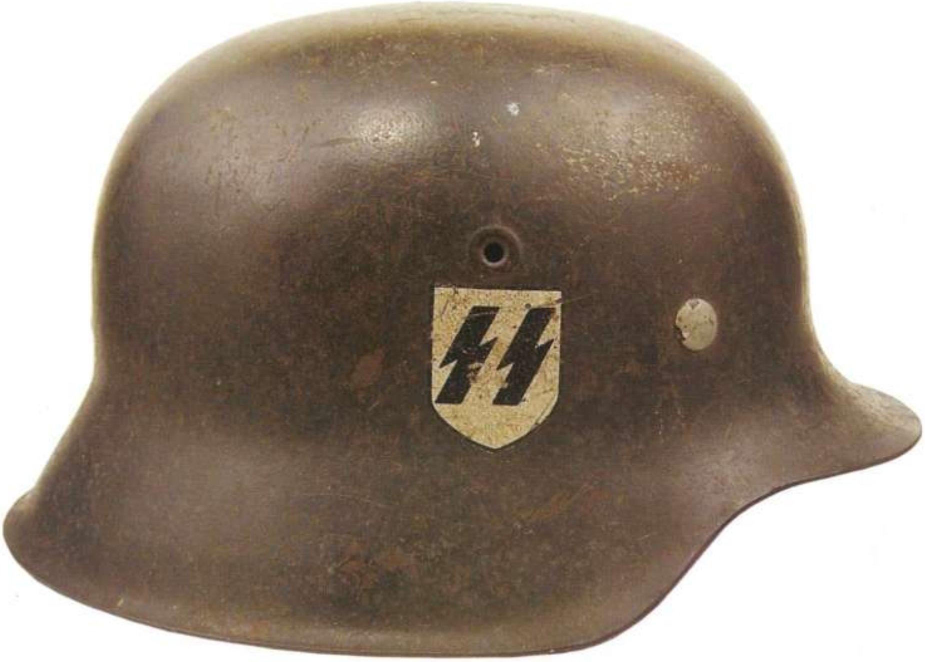
This close-up of the runic decal displays a slight stretch at the upper left corner; the result of a slip during application.



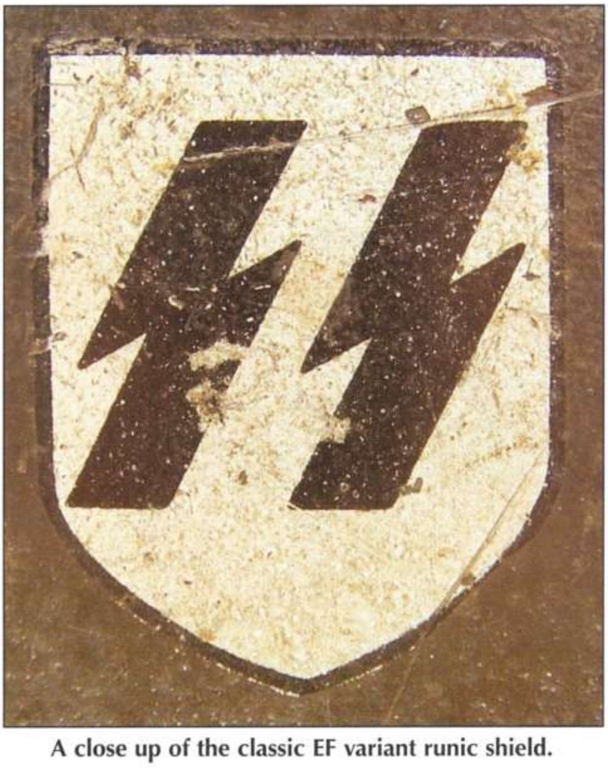
This EF-64 helmet has a single ET-style SS decal on the wearer's left side. Helmets with decals applied to the left side are normally found in use by non-German SS units. The liner frame of this helmet is dated 1943. (Courtesy k. Kithier)



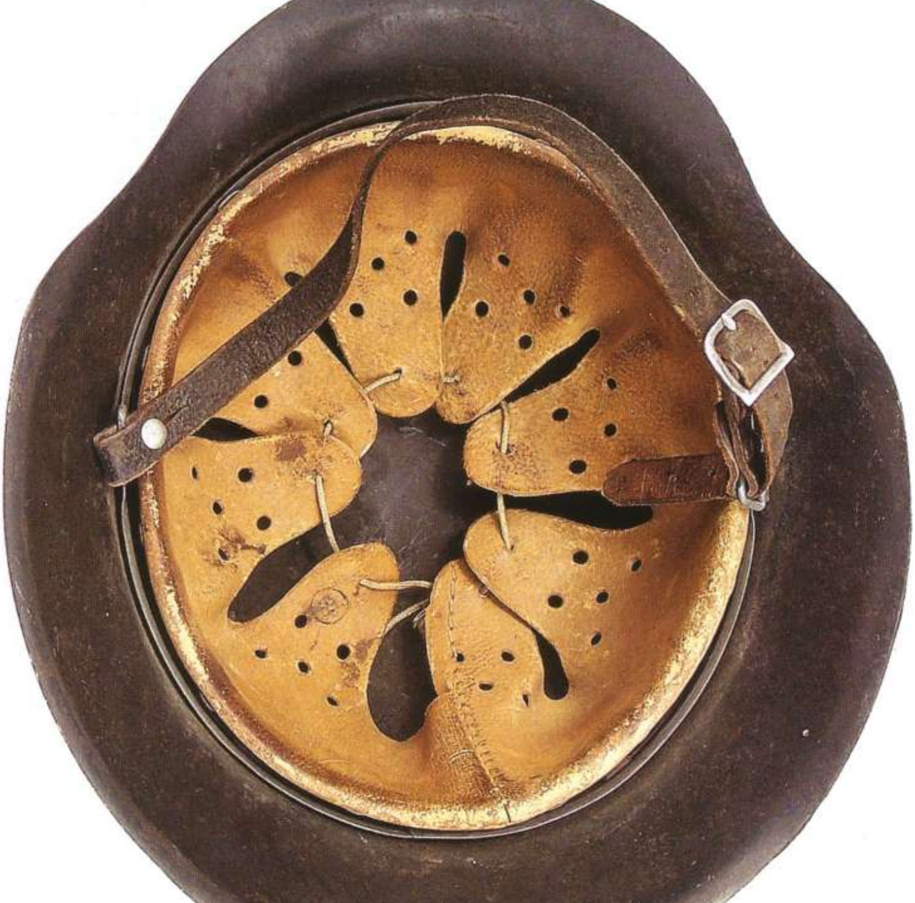
A close-up of the ET style runic shield found on the "reverse decal" EF-64 M42 SS helmet.



This EF-64 bears the unique EF style runic shield. Note the "square" shape of the shell which is characteristic of EF M42 production. This shape is more pronounced in shell sizes 62 and 64.



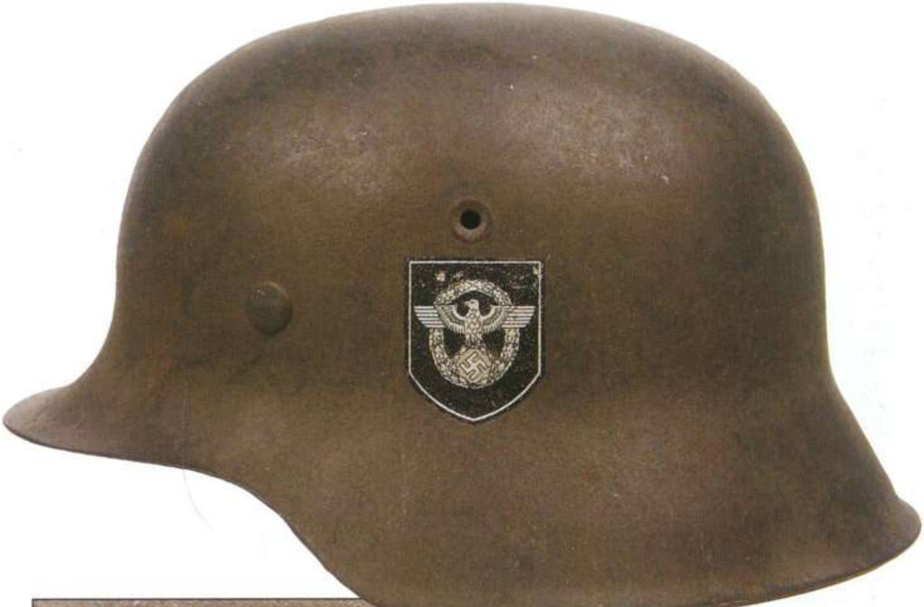
A close up of the classic EF variant runic shield.



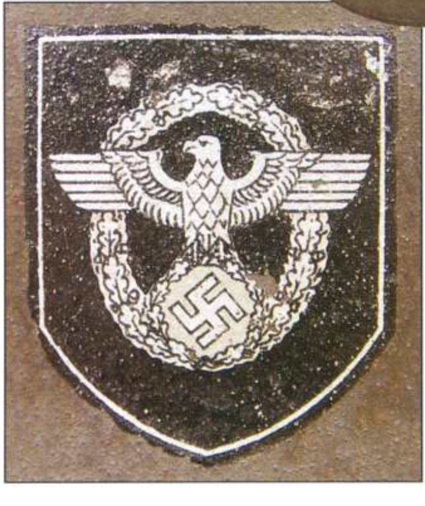
This interior view of the EF-64 *Waffen-SS* helmet shows the worn liner and chinstrap.

M42 Field Police Helmets

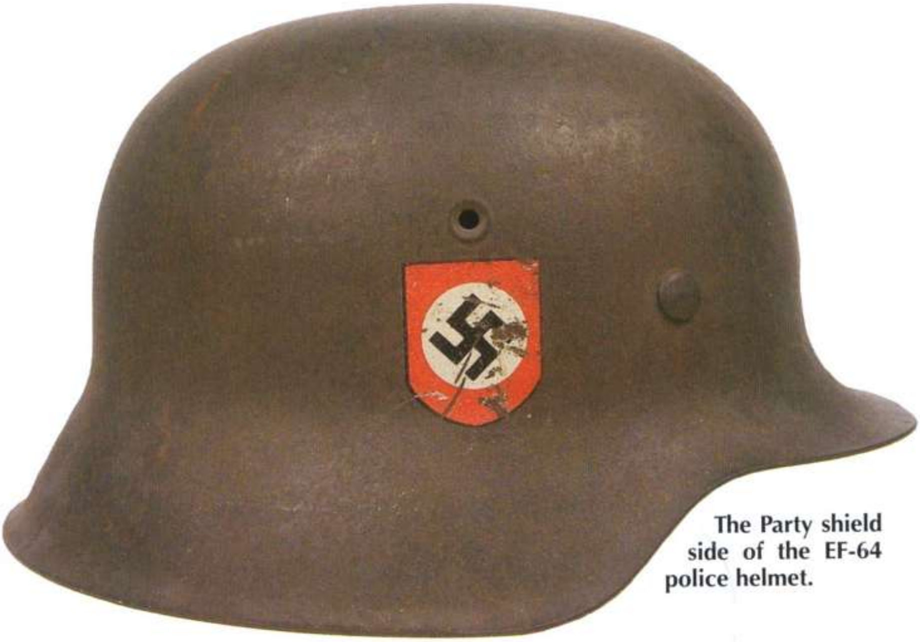
Until the war's end, units of the German *Feldgendarmerie* continued to serve in conjunction with the regular combat arms both in the occupied countries as well as the home-front. Military policemen continued utilization of a combat weight helmet and the application of two decals. Thus, the police helmet is the only "true" double decal M42 model to be issued in any significant number. As noted earlier in the case of M42 *Kriegsmarine* helmets, the EF manufacturer held major contracts for production of police Model 42 helmets and is the manufacturer most often encountered in surviving examples.



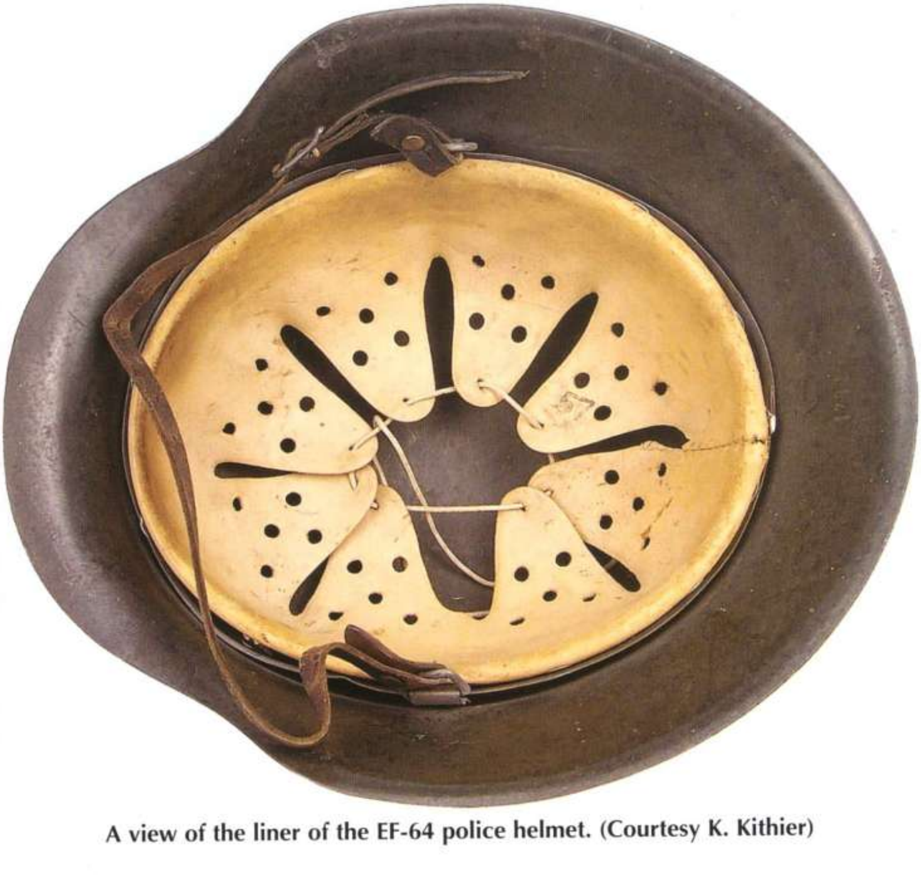
This EF-64 field police helmet displays the typical "square" shape shell and grey toned finish associated with this maker. (Courtesy K. Kithier)



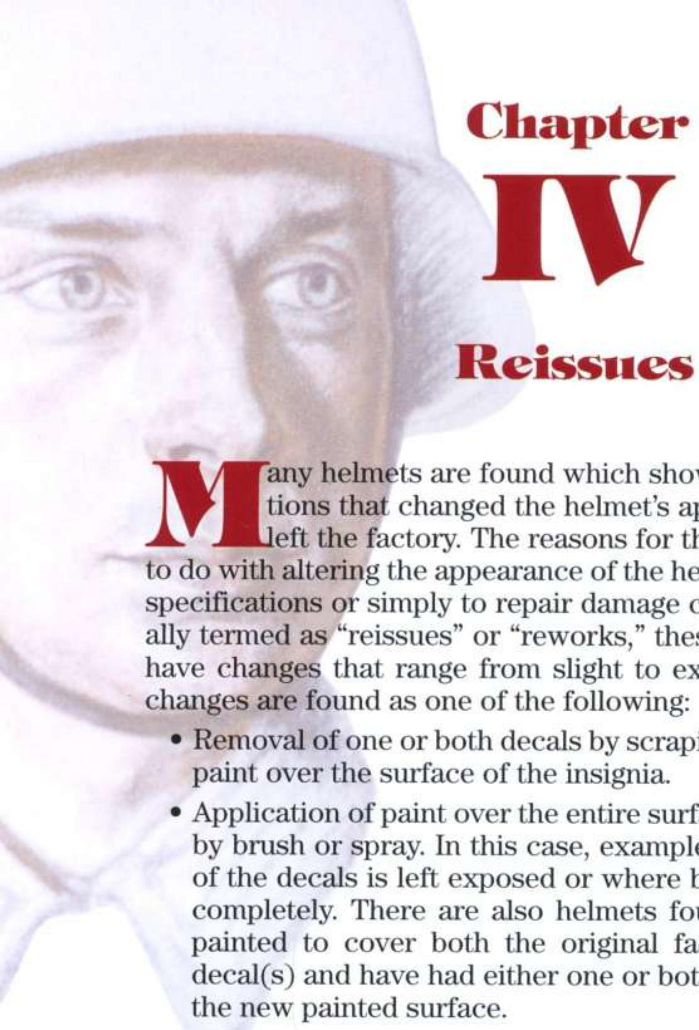
This decal close-up shows the lack of detail normally found in late war police helmet insignias. (Courtesy K. Kithier)



The Party shield side of the EF-64 police helmet.



A view of the liner of the EF-64 police helmet. (Courtesy K. Kithier)



Chapter IV

Reissues

Many helmets are found which show evidence of modifications that changed the helmet's appearance from when it left the factory. The reasons for these modifications have to do with altering the appearance of the helmet to conform to new specifications or simply to repair damage caused by usage. Generally termed as "reissues" or "reworks," these helmets are found to have changes that range from slight to extreme. Generally these changes are found as one of the following:

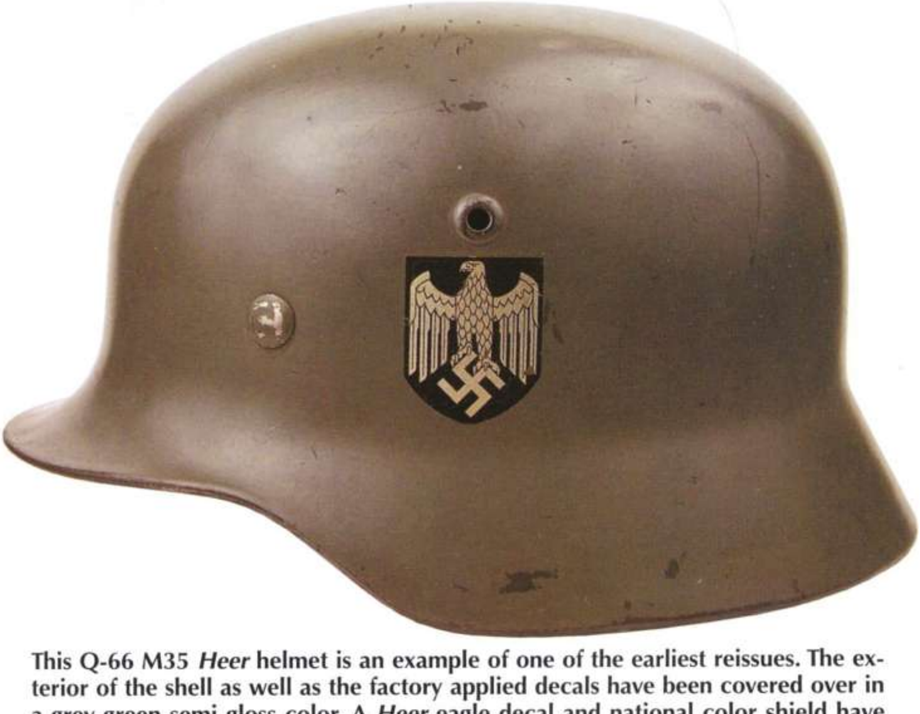
- Removal of one or both decals by scraping them off or applying paint over the surface of the insignia.
- Application of paint over the entire surface of the helmet either by brush or spray. In this case, examples are found where one of the decals is left exposed or where both decals are covered completely. There are also helmets found that have been repainted to cover both the original factory paint as well as decal(s) and have had either one or both decals reapplied over the new painted surface.
- Complete striping of the factory finish and reapplication of sprayed paint along with newly fitted liner components.

In identifying a helmet as a "reissue," it is important to note evidence of a changed appearance rather than merely a difference in the shell model as opposed to the way it is finished. For example, an M35 shell that was factory finished according to 1940 specifications would have a painted finish with texture on the exterior of the shell while the interior would be smooth. The liner components would be of 1940 specifications. The insignia (if any) would most likely be a decal which is associated with the manufacturer of the shell. A reissued helmet may be an M35 shell that has had a coat of 1940 specified, textured paint applied over the 1935 smooth factory finish. The repaint may affect only the exterior of the shell leaving the interior with its original factory finish, in which case the originally fitted liner would most likely remain in place. Or, the repaint may cover both the exterior and interior with textured finish, in which case new liner components would normally have been installed.

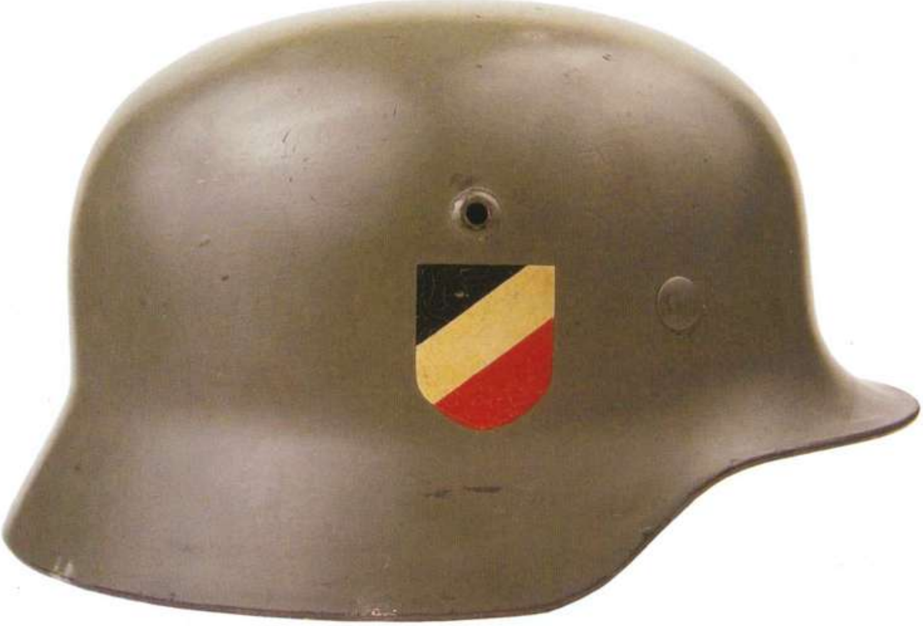
Little is known and can only be speculated upon as to where major modifications of helmets took place. No records have been brought to light as to which ordnance depots may have been involved in helmet refurbishment or which (if any) helmet manufacturers were engaged in refitting used helmets.

The extent to which a helmet was modified from its original factory condition would logically depend upon where such modification took place. It can probably be assumed that simple modifications such as removing decals or brush painting over the helmet surface could have been done in the field at unit level. More substantial modifications such as installation of replacement components and complete refinishing would suggest being done at a location where new components would be on hand and where facilities for stripping and repainting would be found.

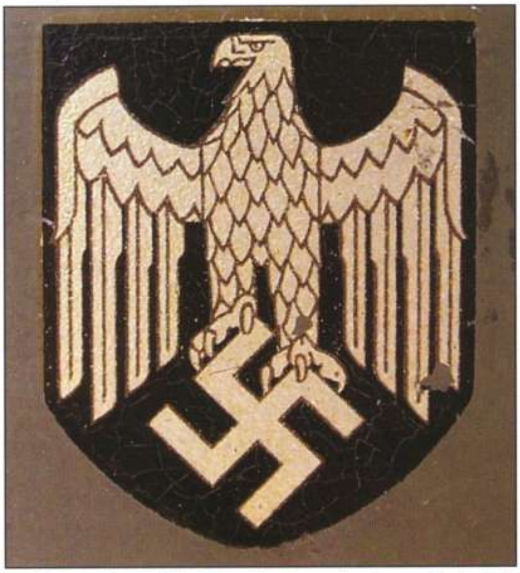
Reissue *Heer* Helmets



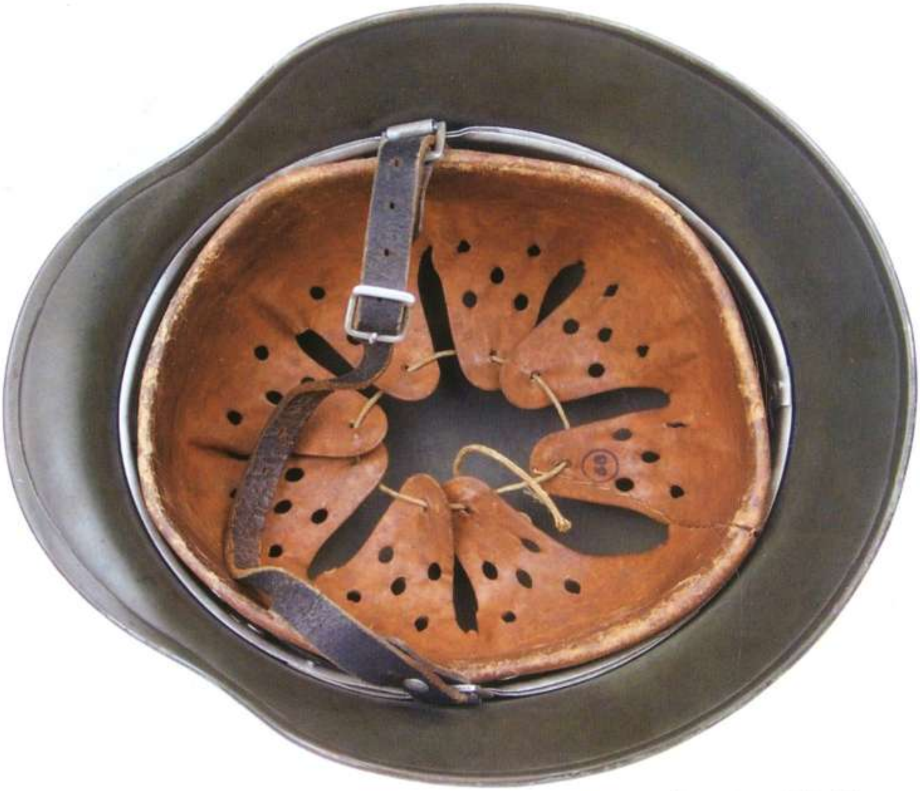
This Q-66 M35 *Heer* helmet is an example of one of the earliest reissues. The exterior of the shell as well as the factory applied decals have been covered over in a grey-green semi gloss color. A *Heer* eagle decal and national color shield have been applied over this paint.



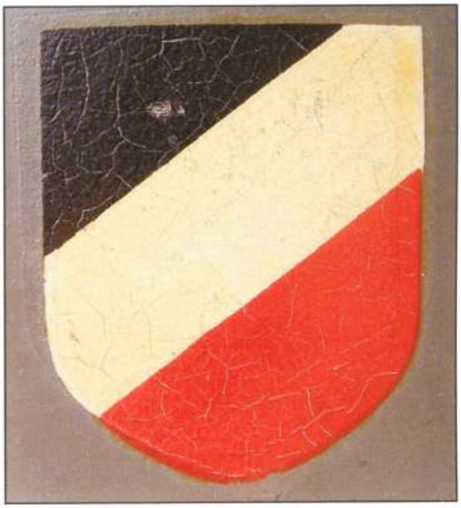
This right side view of the Q-66 M35 reissued helmet shows the national color shield. The semi-gloss over-paint was brush applied and shows very light brush strokes due to the relatively thin paint. No damage or chips can be seen in the underlying factory paint coat. Since there appears to be little or no wear to the original finish and thus little reason for refurbishment, it is possible that the appearance of this helmet was simply "freshened up" for parade use.



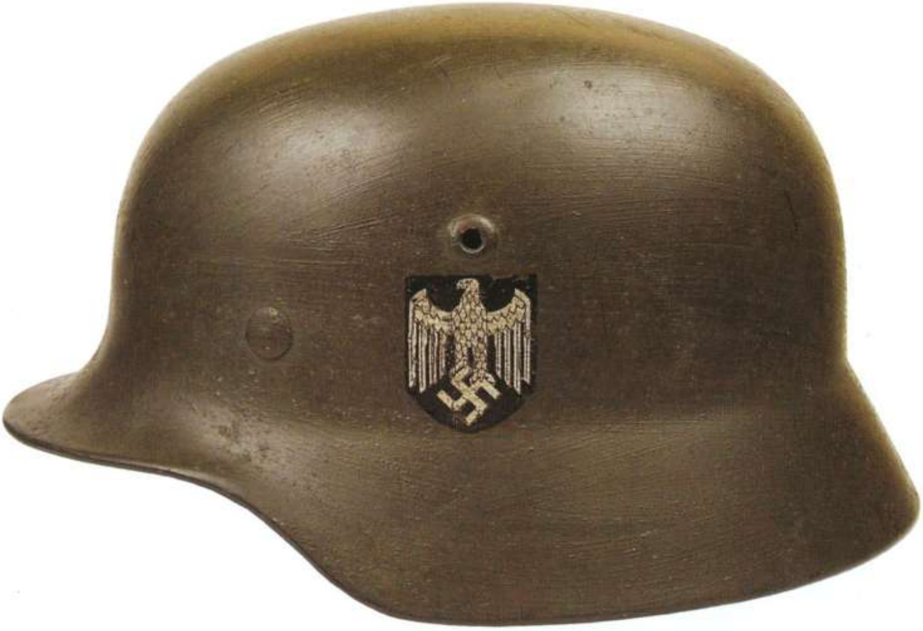
The *Heer* eagle decal found on this Q-66 helmet is that which is found applied at the ET factory. Such a decal found on a reworked helmet is not surprising for many ET style decals were used during after-the-factory refurbishments. Conversely, Q pattern decals are not found on anything other than Q factory issued products.



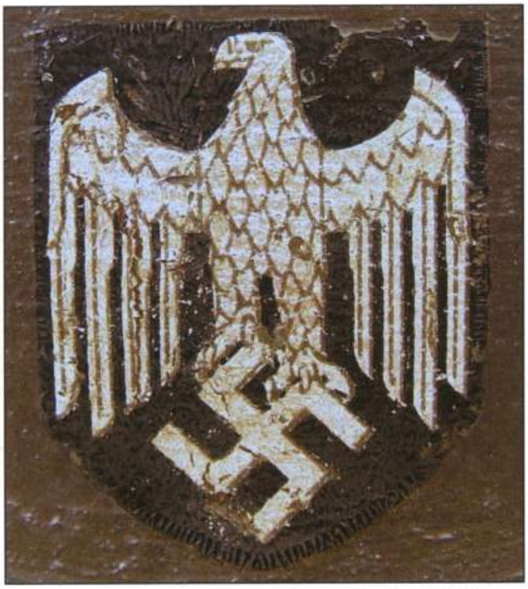
This interior shot of the Q-66 rework shows no modifications from its original factory condition. The inside has not been repainted. The liner band, chinstrap and dome-stamp are each dated 1938.



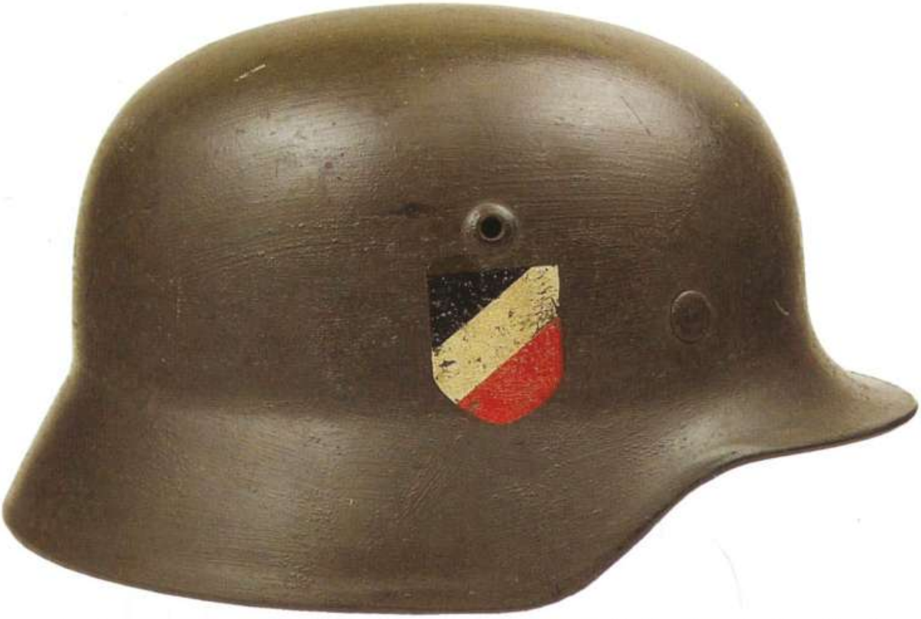
A close view of the national color shield found on this Q-66 helmet shows "mud-cracks" caused by uneven drying of the surface. The decal is slightly off-set from the original factory applied shield, the outlines of which can be seen to the upper and left sides.



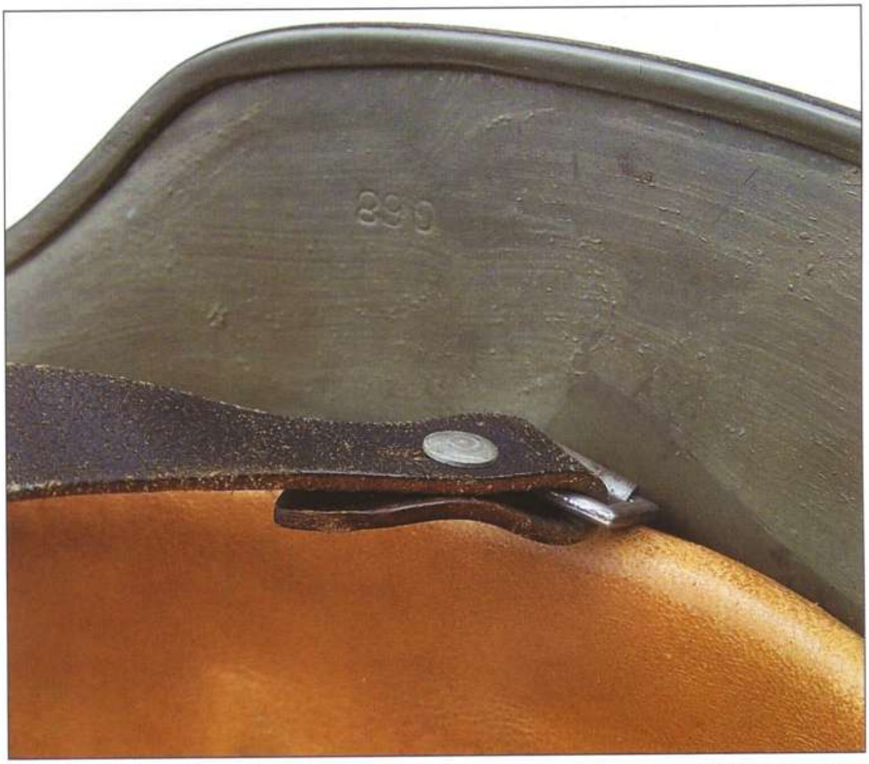
Another example of a double decal reissued helmet. The exterior of this Q-68 helmet shell has been refinished during a time before the adoption of 1940 specifications. The paint used is a fairly thick but non-textured M35 type and has been applied by hand with a brush. Chips and scratches in the original factory paint are seen in relief through the repaint. Both the *Heer* eagle and national colors decals have been reapplied. It may be conjectured that the damage caused to this helmet before refurbishment is either a result of training in the field or actual combat usage in the earliest campaigns such as Poland in September 1939.



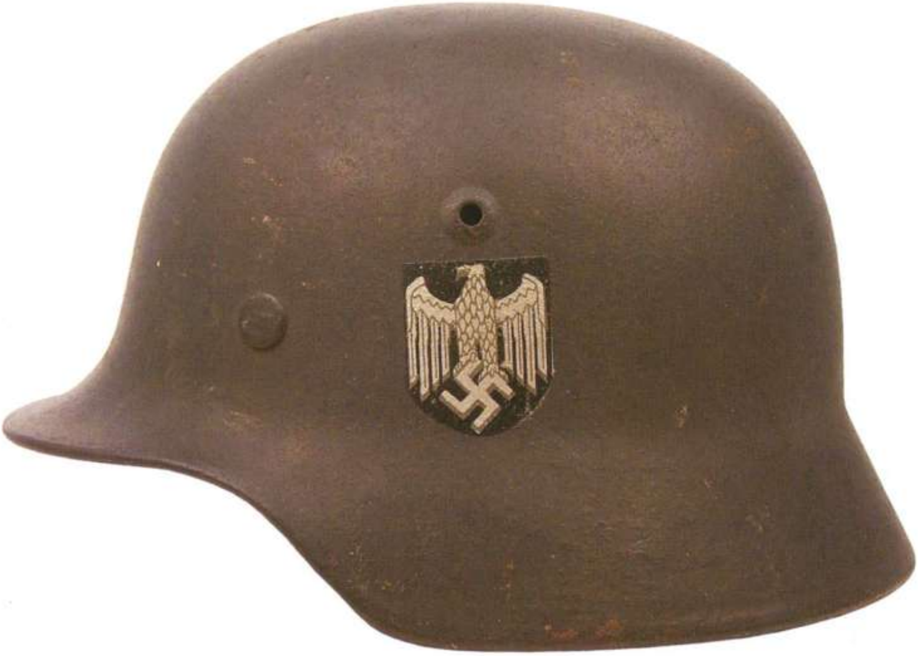
The *Heer* eagle decal which has been placed over the brushed-on paint is the same style which is found applied at the ET factory.



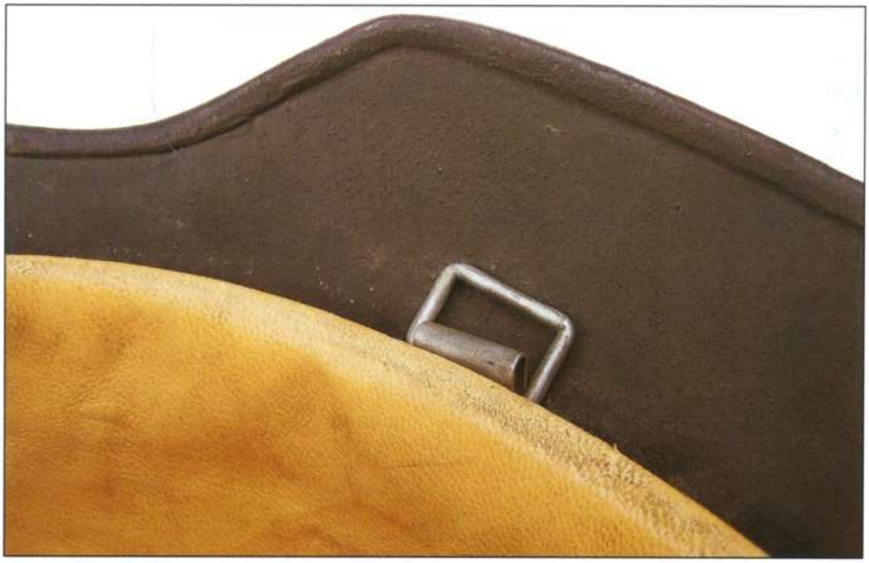
Left side view of the Q-68 M35 helmet shows the reapplied national colors decal.



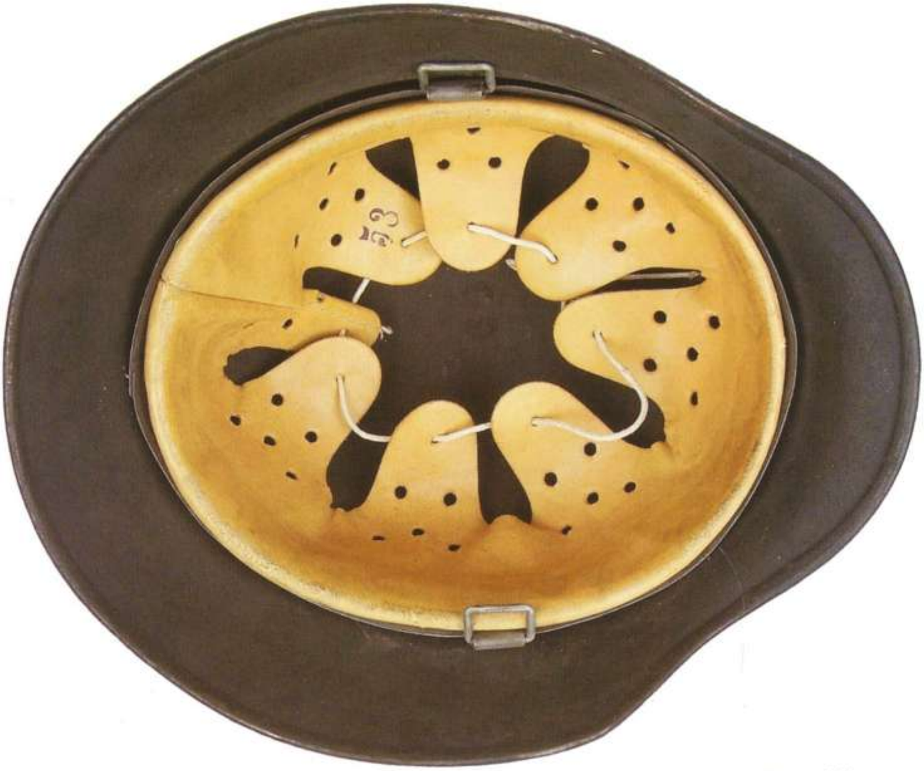
This detail shows how the brush strokes of the over-paint go around the chinstrap bale. There is only a subtle difference in shade between the original factory finish and the later applied paint.



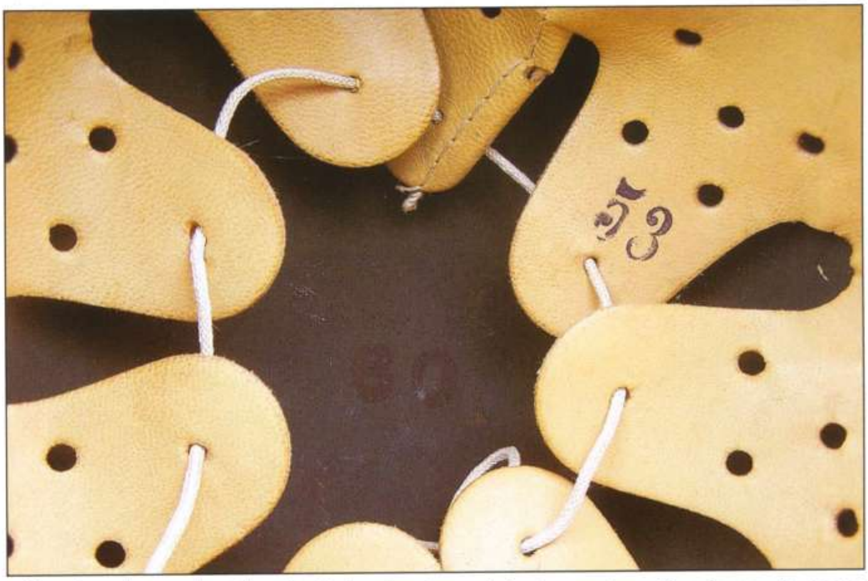
This M35 ET-60 Heer helmet is an example which was refurbished at a location possessing the necessary facilities to strip the helmet completely and rebuild it according to 1940 specifications. Both the exterior and interior of the helmet have been finished in rough texture paint. A heavily grey-lined decal of unknown manufacture has been applied to the left side. (Courtesy K. Kithier)



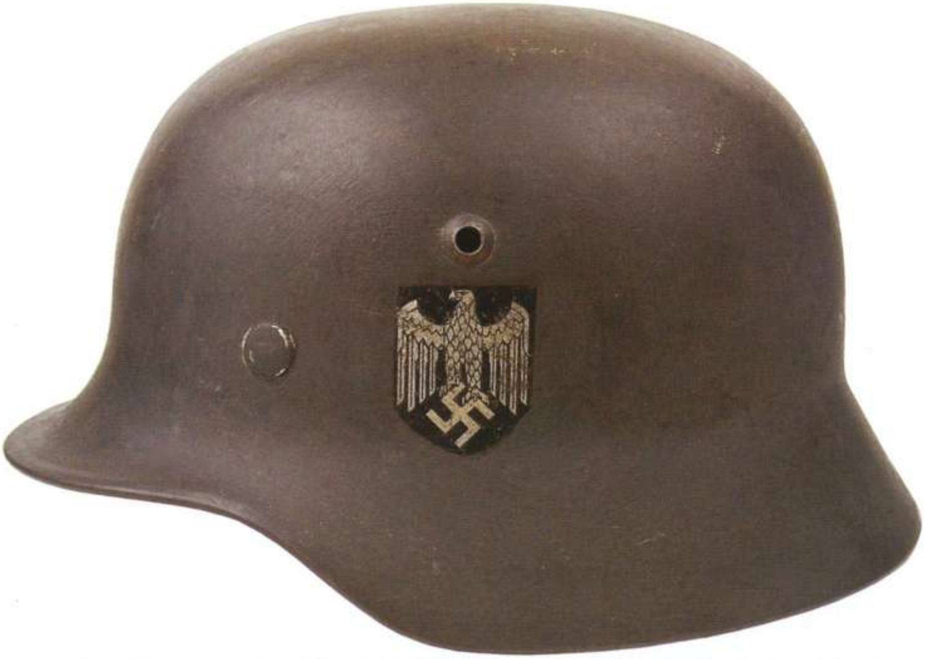
Here, the rough texture paint is seen applied to the interior of the shell of this ET-60 M35. Note that the maker/size marking has been obscured. The helmet shell is supposed to be a product of the ET firm by reason of the shell shape. Note the relatively sharp angular curve where the visor meets the side rim. (Courtesy K. Kithier)



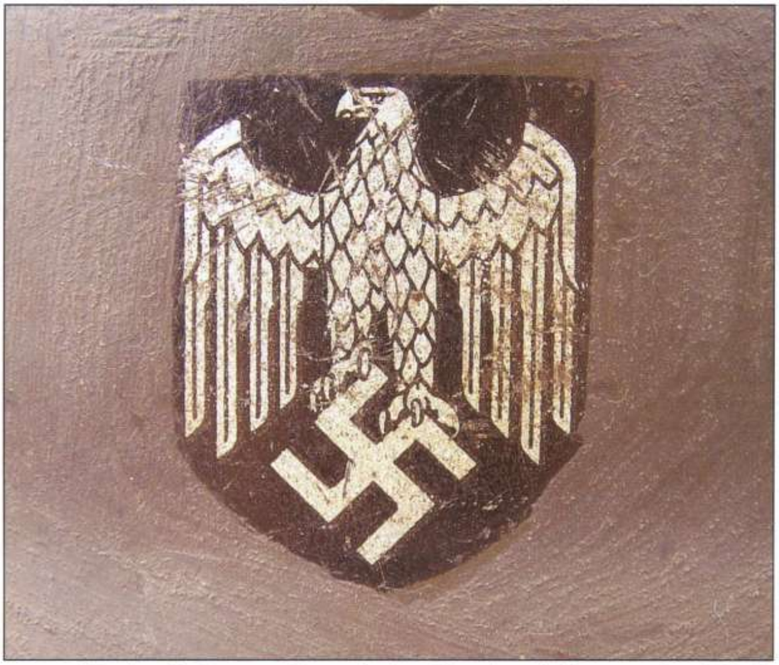
Interior view of this ET-60 M35 helmet shows that a 1941 dated steel-framed liner has been installed.



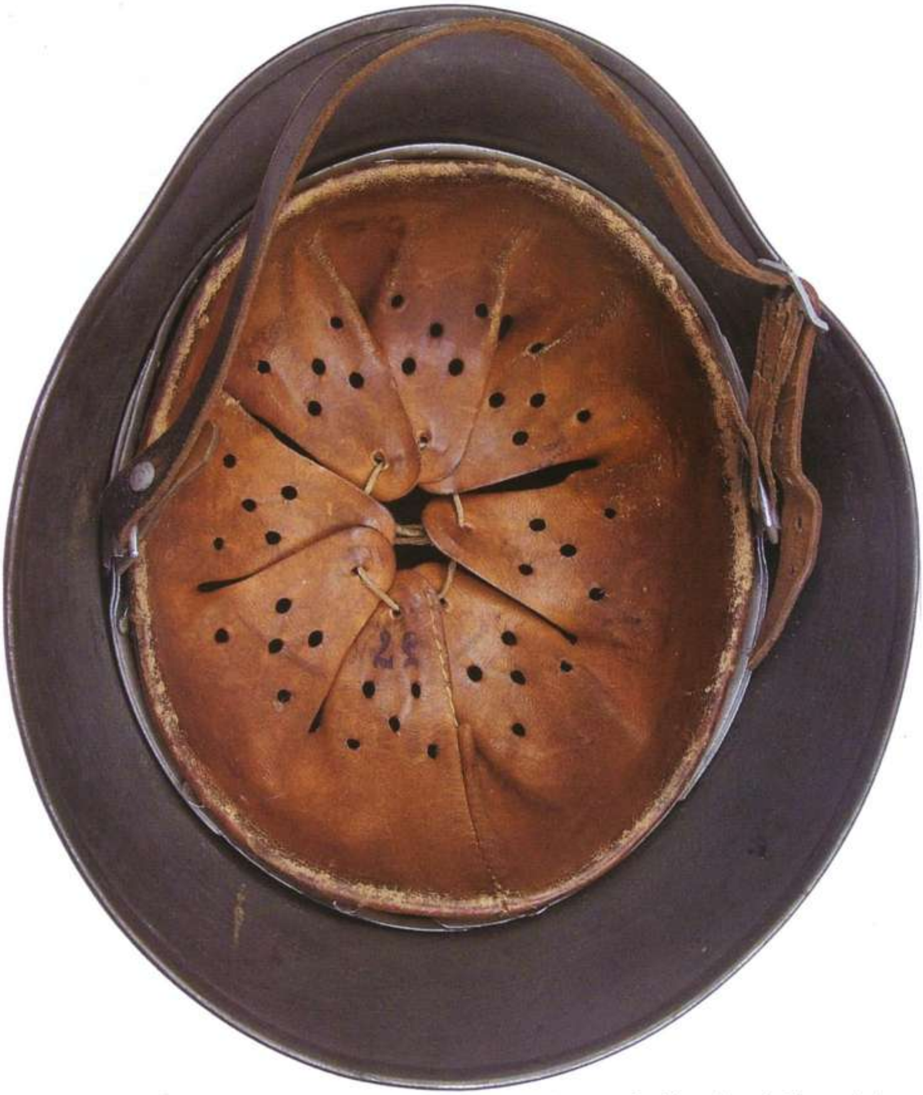
This view shows that the shell size has been ink-stamped on the dome. In many cases where a helmet interior has been painted with rough texture paint, the die-stamped size markings are obscured from the inside rim of the shell so the shell size is ink-stamped either on the dome or on the rear skirt.



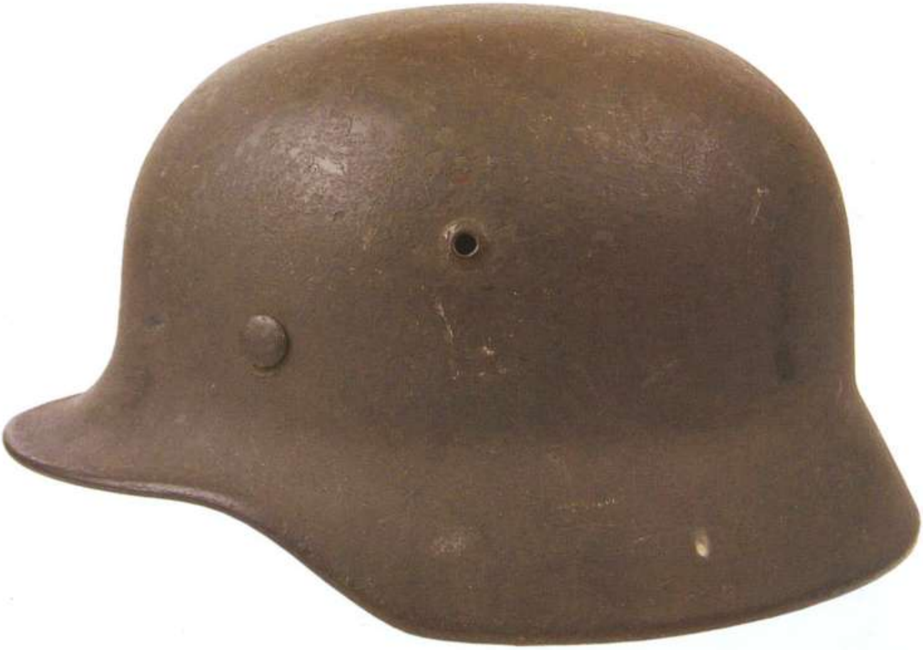
A reissued example of an EF-64. Originally issued as a double decal *Heer* helmet, the exterior has been brush painted covering over the national colors.



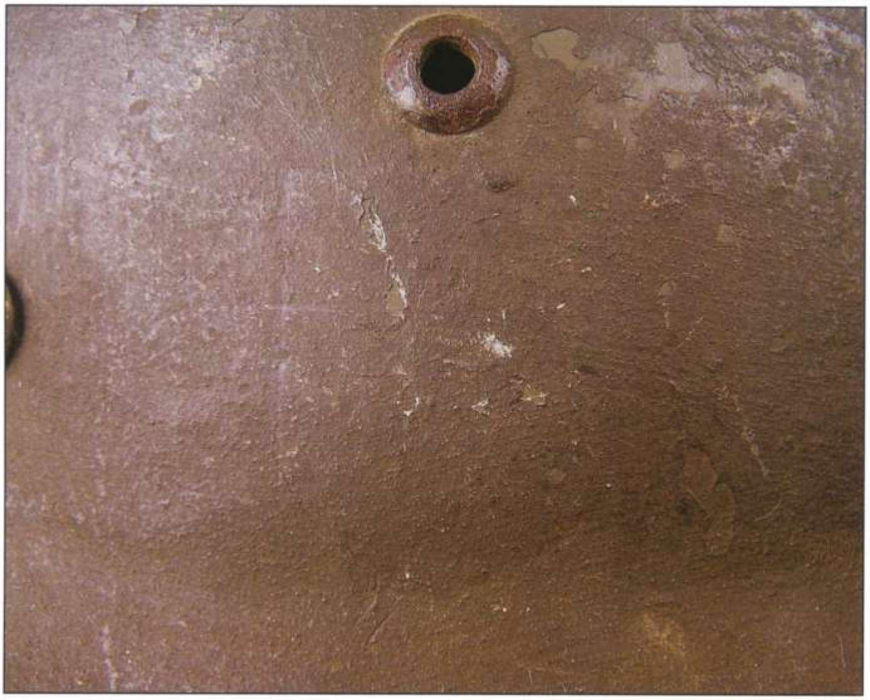
Close-up of the decal of EF-64. The eagle decal has been left exposed and the brush strokes of the paint are evident. Most likely, the finish of this helmet was modified in the field or at a location where replacement decals were not available. Hence the factory decal was left in place.



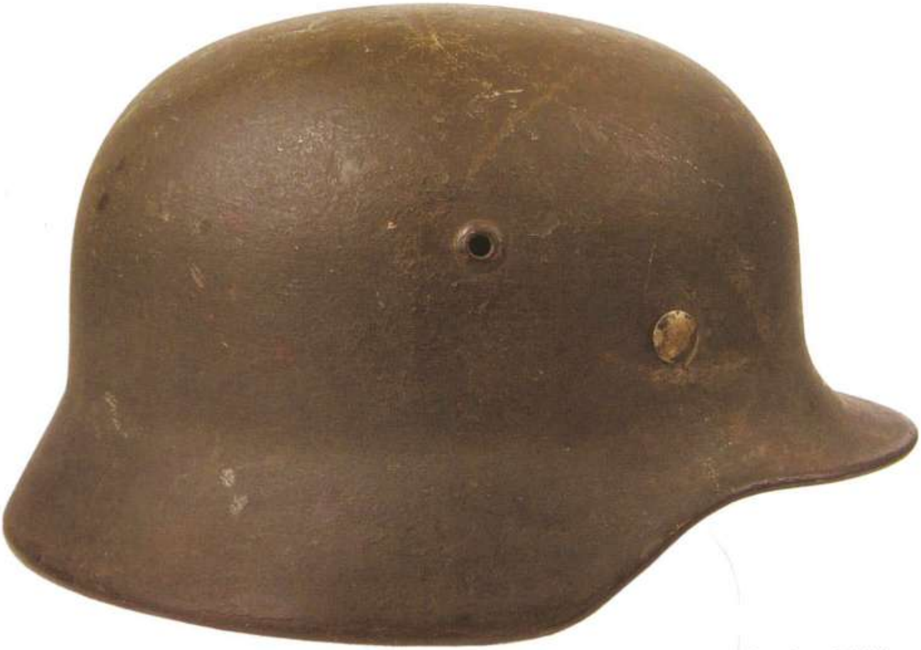
Interior of EF-64. The inside rim has been painted up to the liner band. The original factory installed liner bears the date 1939. The inside dome of the helmet has been left in the smooth texture paint. There is no dome-stamp which is common among EF produced helmets.



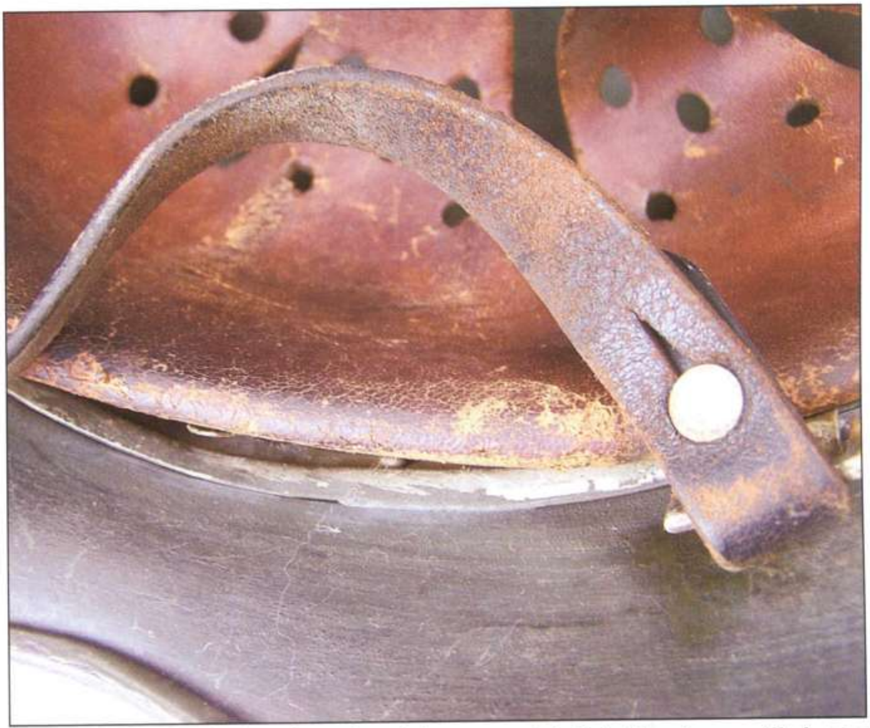
M35 ET66 double decal *Heer* helmet repainted in 1940 spec rough texture paint. The factory applied smooth finish paint is clearly visible in damaged areas. Since the service branch as well as the national color shield have been eliminated, it would appear that this helmet was modified fairly late or after the end of decal usage in 1943.



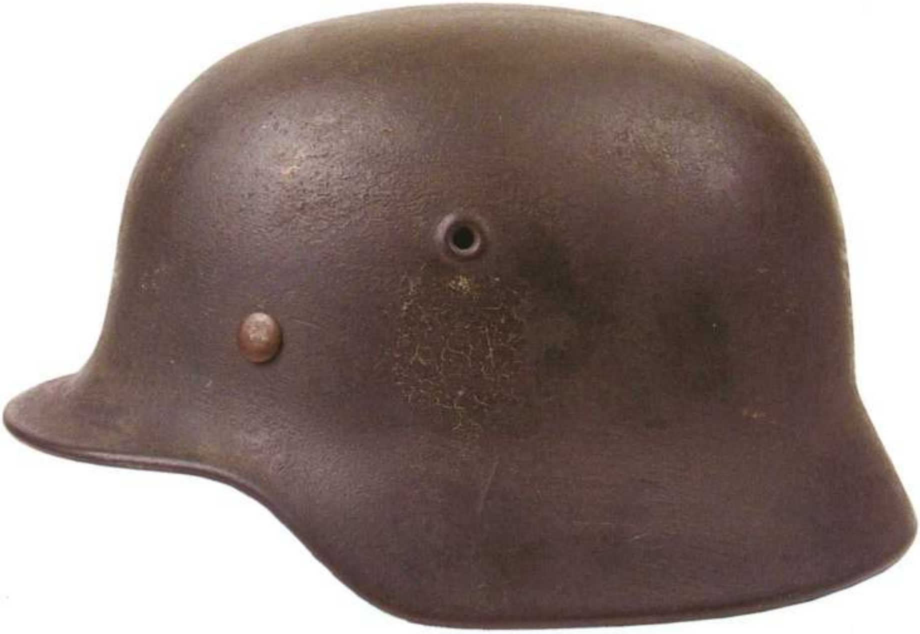
The *Heer* eagle decal shows through in relief from beneath the over-paint



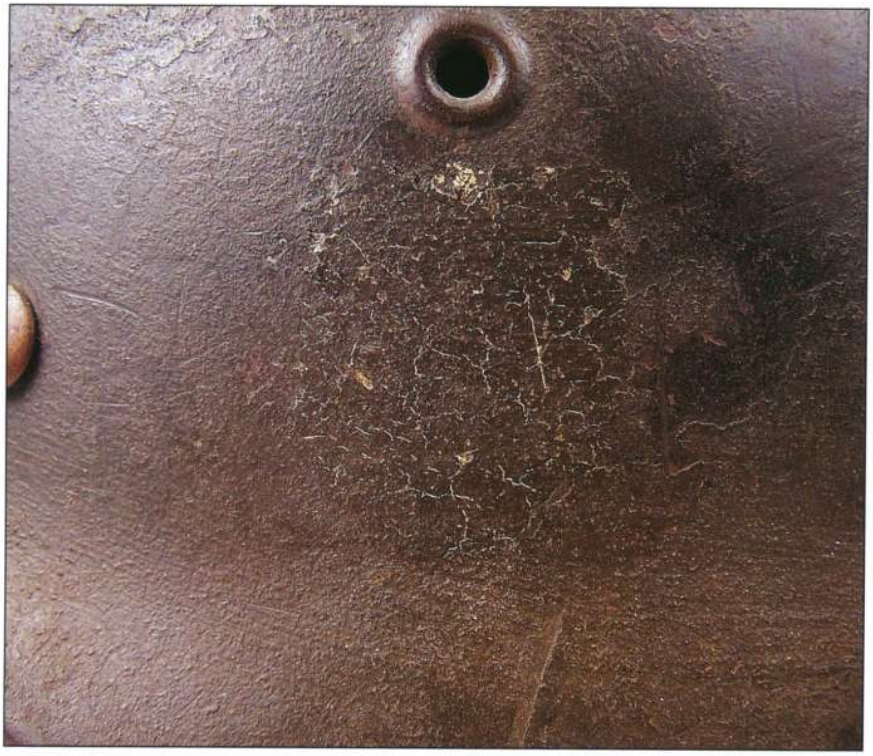
Right side view of M35 ET64 double decal *Heer* helmet. The national color shield has been completely covered by the over-paint.



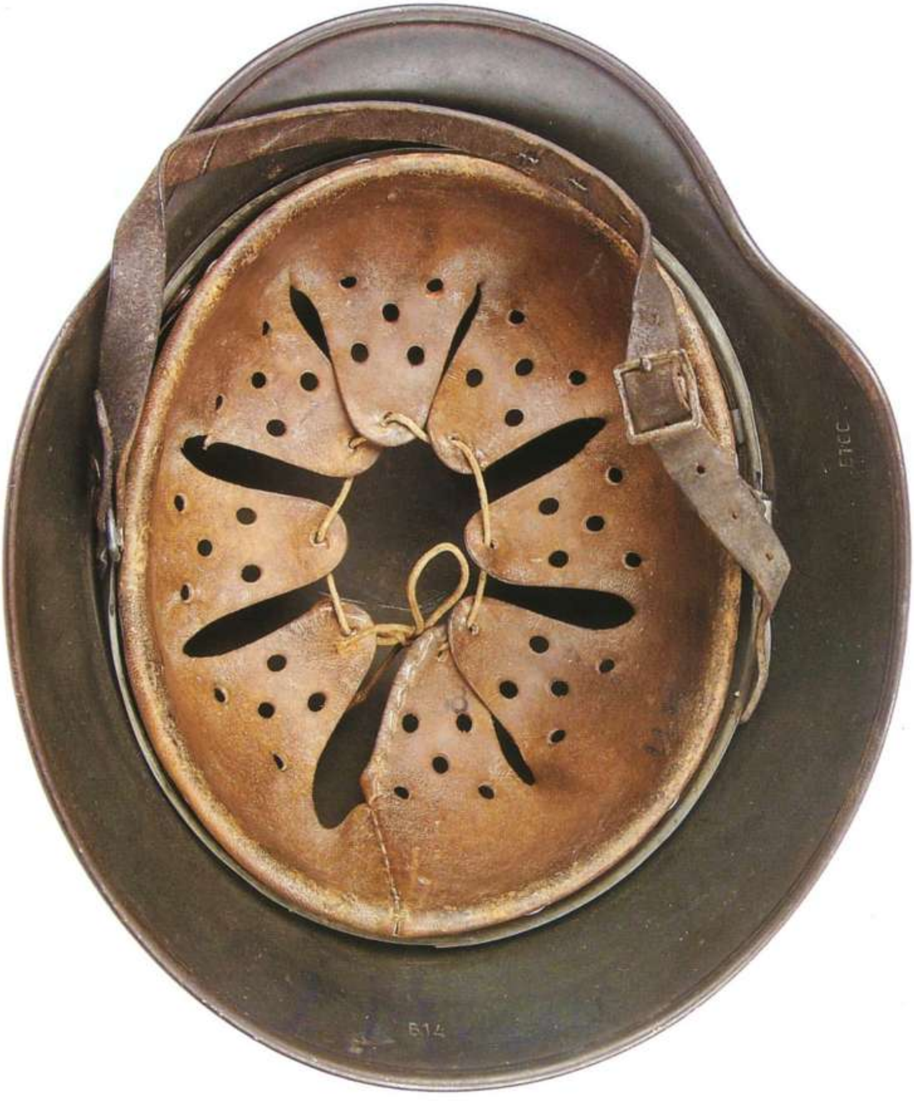
This detail shows the brush marks of the over-paint. Paint has been spilled over onto the liner band.



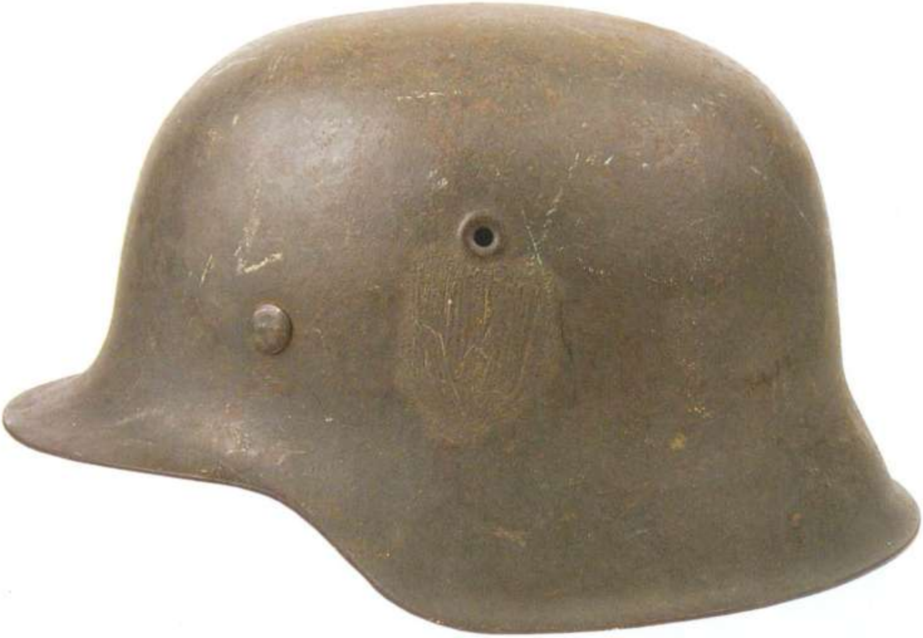
An example of a modification conforming to 1943 specifications. This M40 ET-64 helmet left the factory with a single *Heer* decal applied to the left side. The exterior of the helmet shell has been repainted by brush with M40 spec paint.



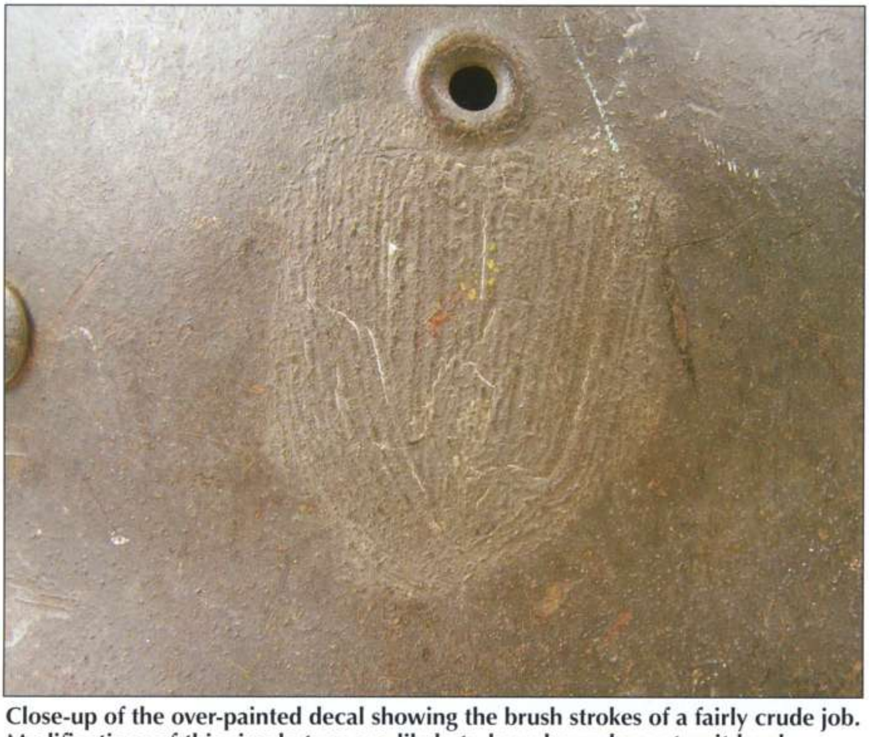
"Mudcracks" are seen where the over-paint has covered the *Heer* eagle decal.



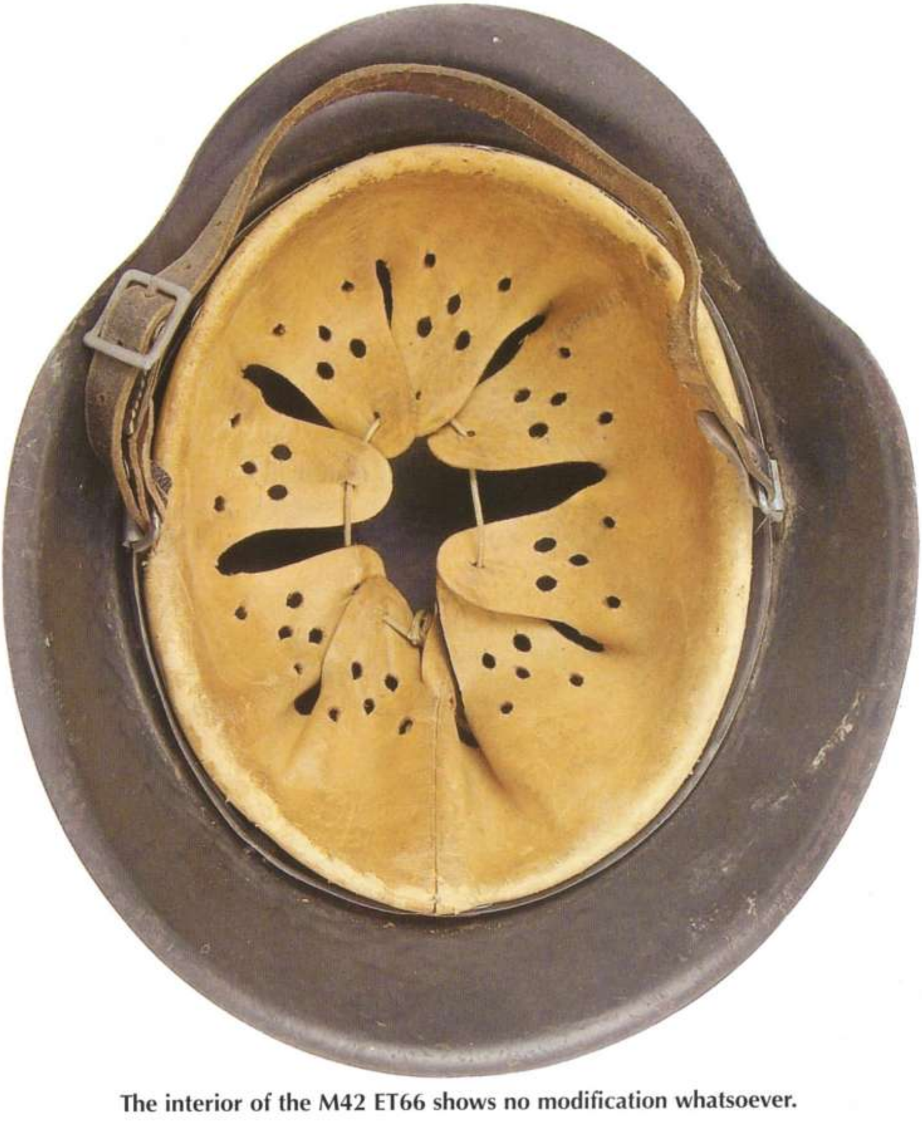
The interior of this helmet shows no further modifications. The factory installed 1940 dated liner is still in place along with the original chinstrap.



Above is another example of a *Heer* helmet which was modified according to 1943 specifications. This M42 ET66 helmet has not been completely repainted. Only the decal has been covered by paint. The over-paint closely but not completely matches the original factory applied finish.

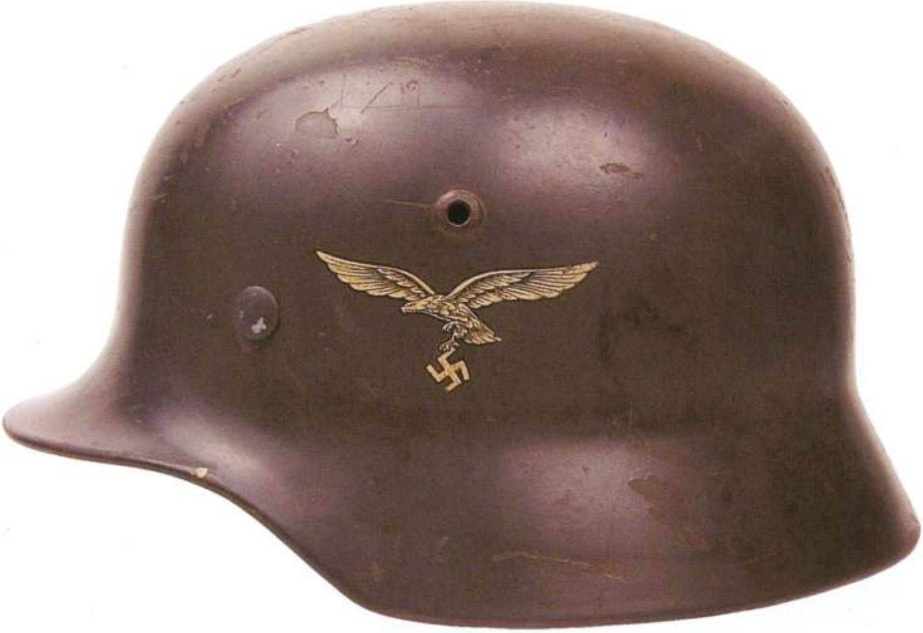


Close-up of the over-painted decal showing the brush strokes of a fairly crude job. Modifications of this simple type are likely to have been done at unit level.

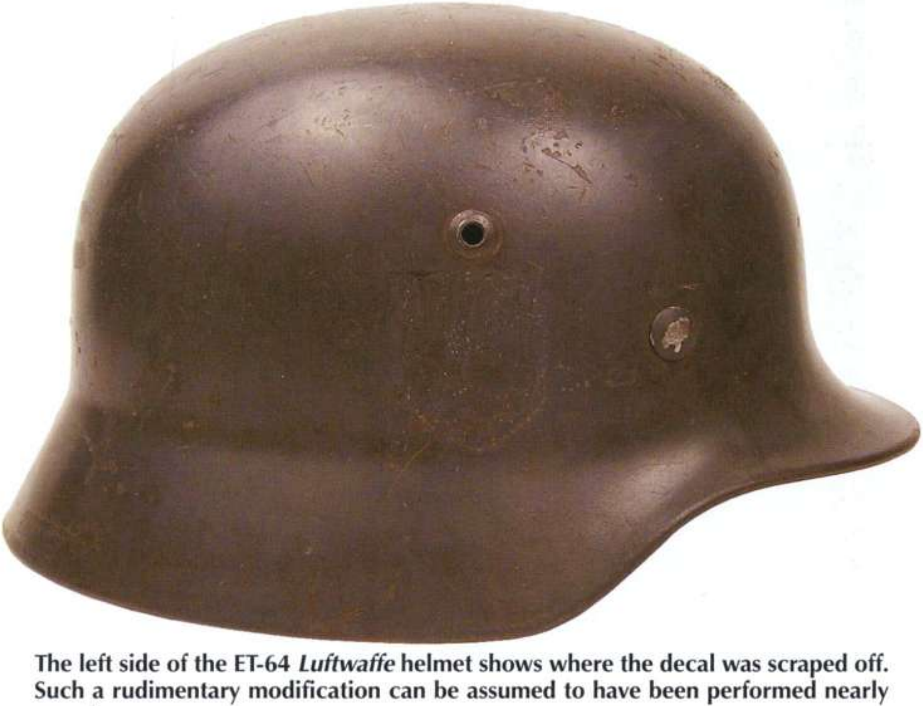


The interior of the M42 ET66 shows no modification whatsoever.

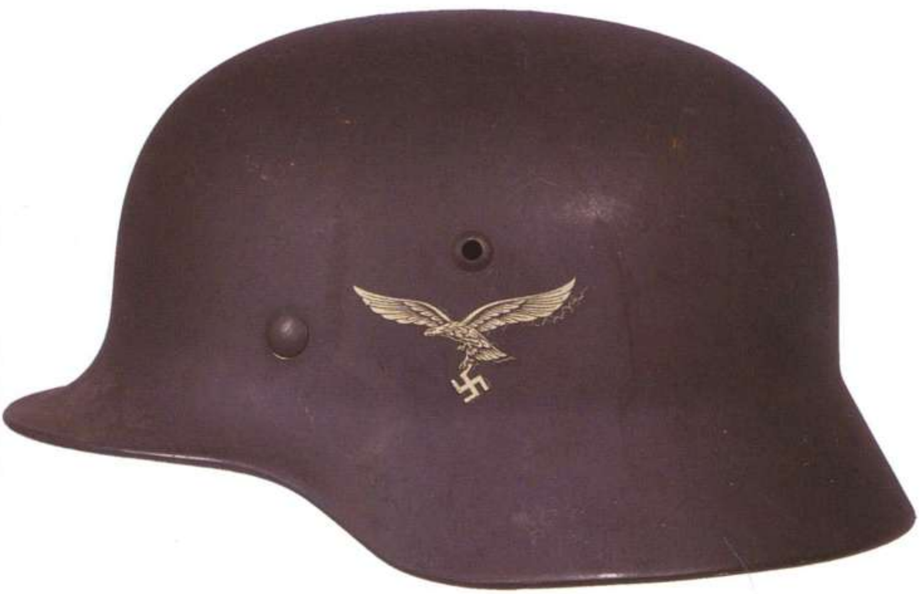
Reissue *Luftwaffe* Helmets



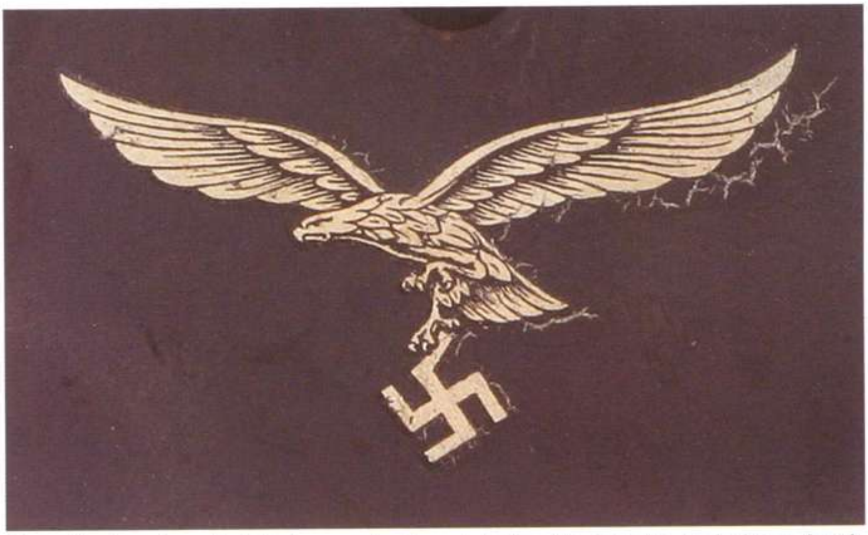
This ET-64 M35 *Luftwaffe* helmet has had its national colors shield removed as per 1940 specifications. There has been no further modification made to this helmet. (Courtesy R. Church)



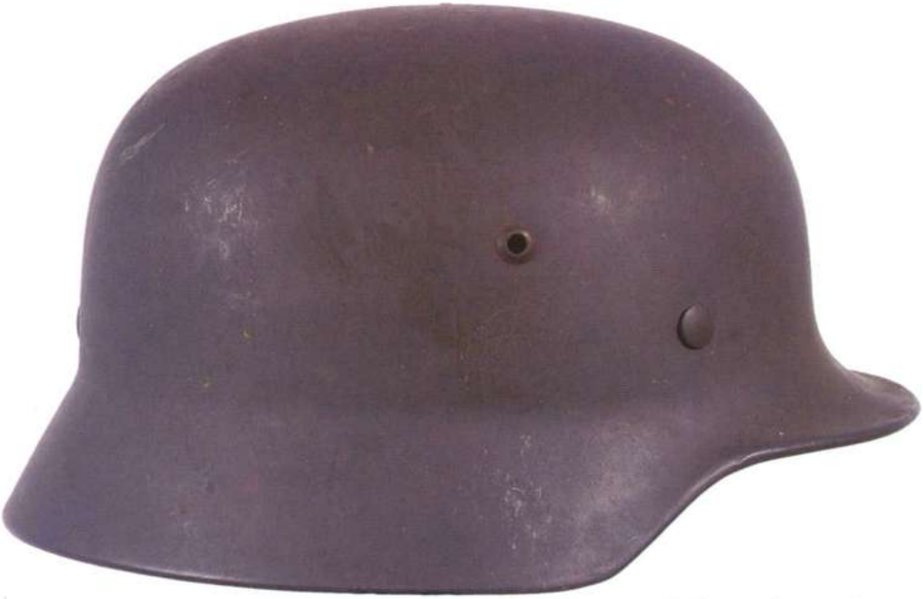
The left side of the ET-64 *Luftwaffe* helmet shows where the decal was scraped off. Such a rudimentary modification can be assumed to have been performed nearly anywhere.



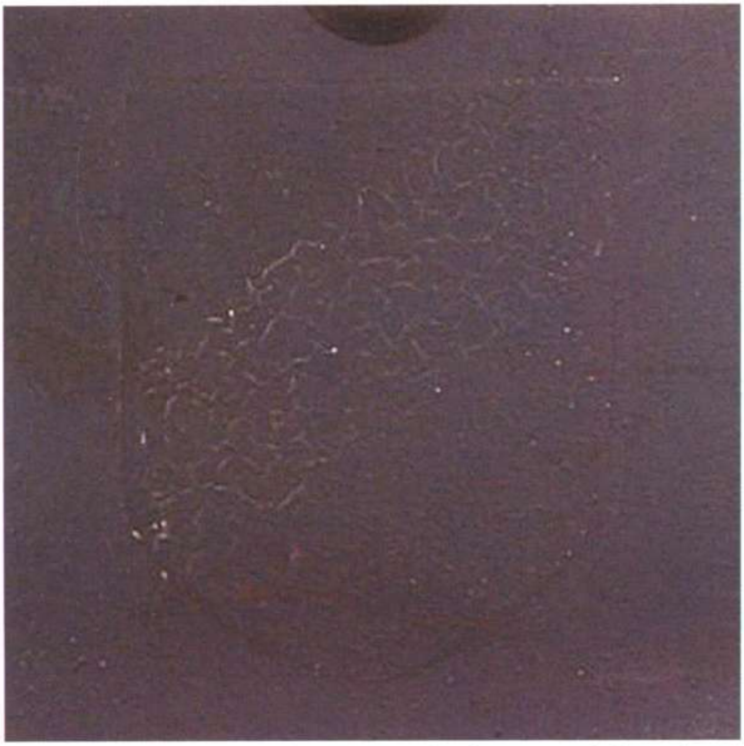
This Q-66 M35 *Luftwaffe* was finished at the factory as a double decal. Later the exterior was sprayed over with M40 spec textured paint and a reissue decal was applied. The neatness of the rework and the blue color which is similar to that used on Q factory M40s suggests that this helmet may have been modified per 1940 specifications before it left the Quist factory. (Don Troiani Collection, photo copyright Don Troiani)



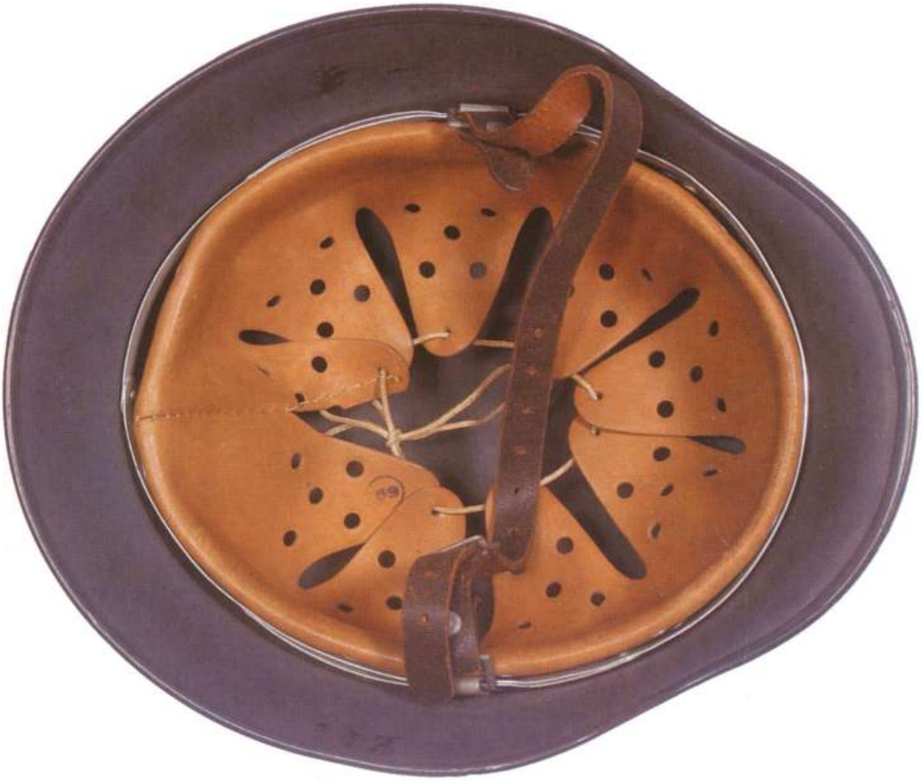
Note the "mud-cracks" that occur in the paint directly over the underlying decal. This could be a hint that the new textured finish was applied within a brief period of time after the decal had originally been applied. (Don Troiani Collection, photo copyright Don Troiani)



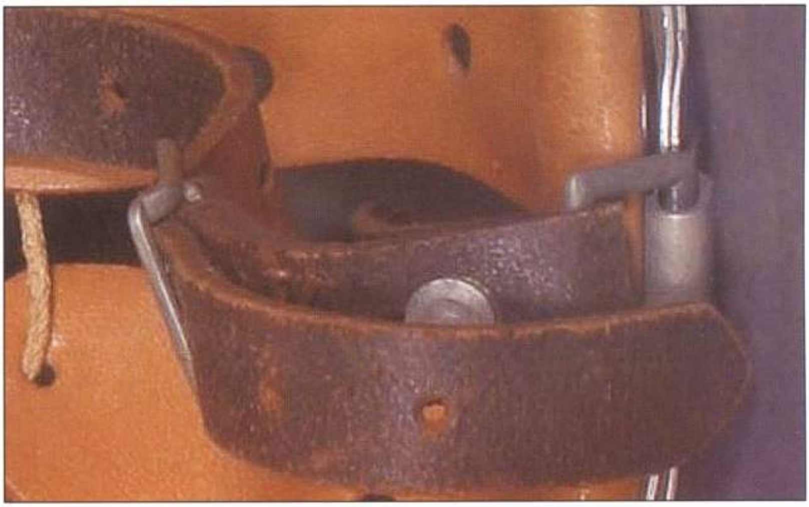
The right side shows that no national color shield was applied over the repaint. (Don Troiani Collection, photo copyright Don Troiani)



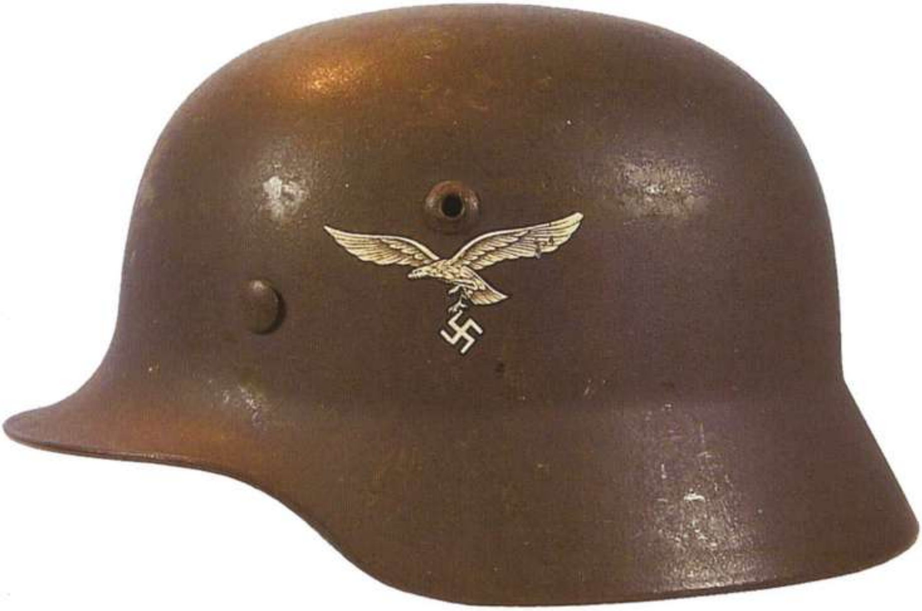
This close-up shows the area where the repaint has covered the national color shield, details of which can be seen in relief. (Don Troiani Collection, photo copyright Don Troiani)



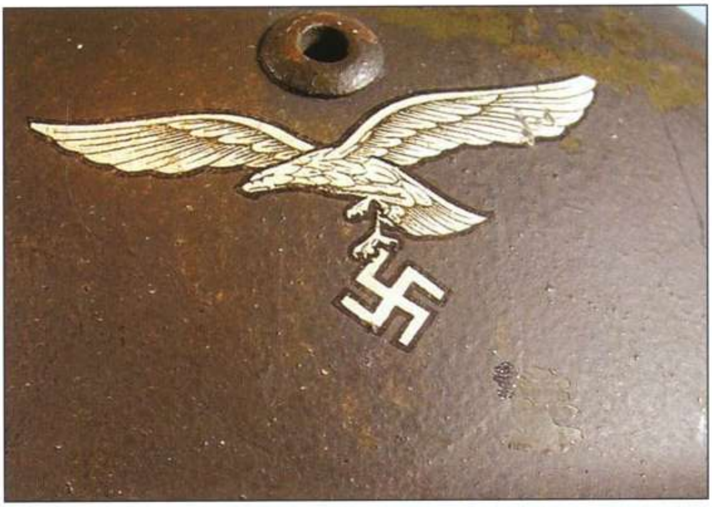
The interior of this helmet displays no modification. The paint on the inside of the shell remains the original factory applied M35 spec blue-grey. The factory installed liner remains in place as well as the *Luftwaffe* issue brown leather chinstrap. (Don Troiani Collection, photo copyright Don Troiani)



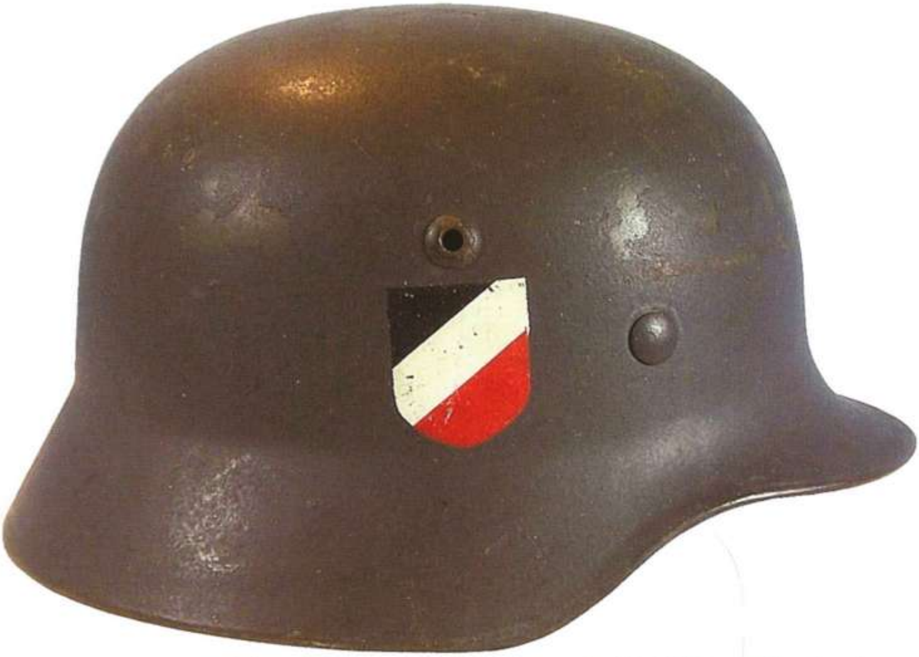
This close-up of the chinstrap shows the brown dye used to color the "rough" side of chinstraps issued by the *Luftwaffe* until 1940, at which time black became the universal color for chinstraps of all service branches. (Don Troiani Collection, photo copyright Don Troiani)



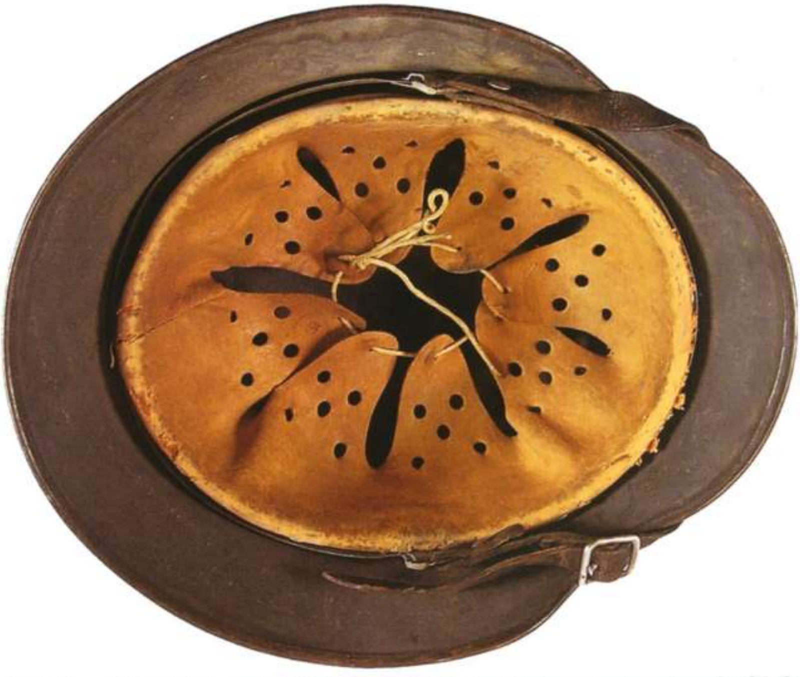
This M35 helmet was originally finished at the factory as a double decal *Heer* helmet. It has been painted over in 1940 spec textured *Luftwaffe* blue-grey color and *Luftwaffe* insignias have been added. (R. Richter collection)



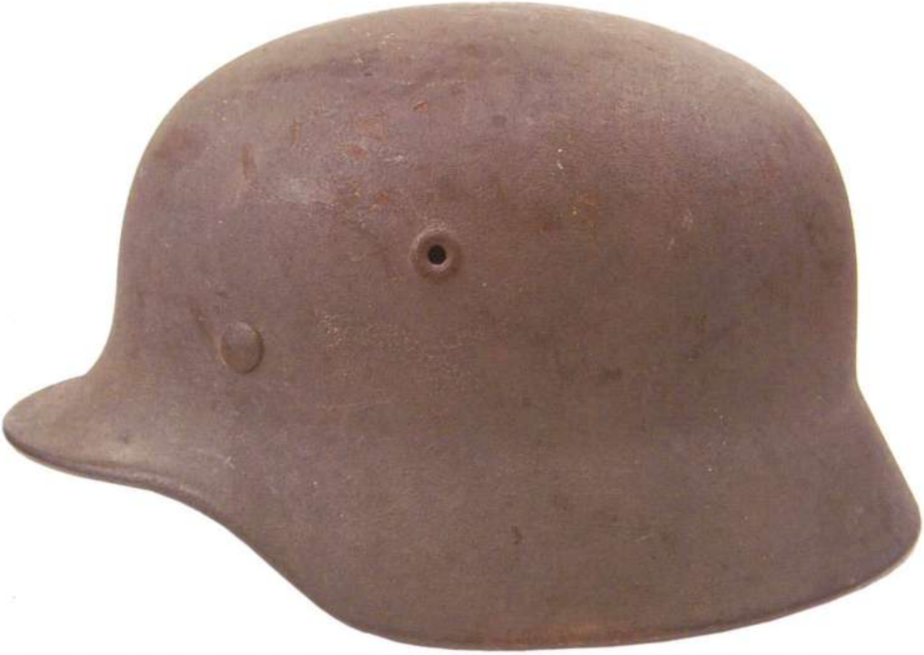
This detail photo shows the outline of the previous *Heer* decal which still lies beneath the *Luftwaffe* paint. Traces of early smooth factory finish *feldgrau* can be seen in damaged areas of the over-paint. (Courtesy R. Richter)



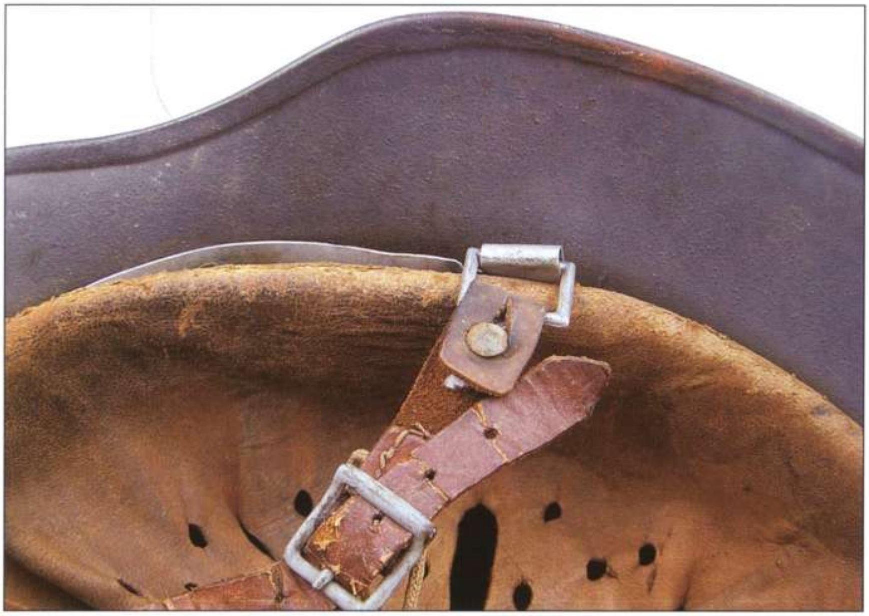
Although this M35 helmet has apparently been reworked in 1940, a national color shield has been applied on the wearer's right. (Courtesy R. Richter)



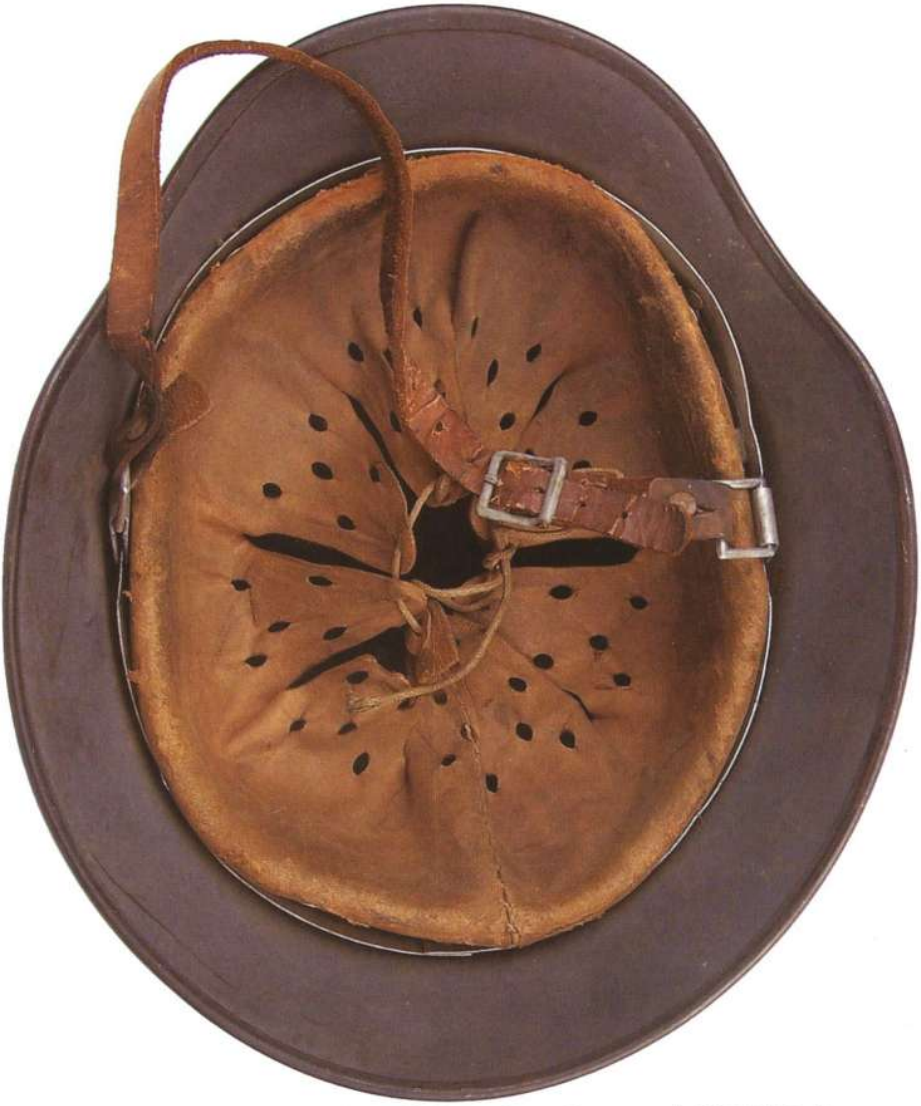
The interior of this M35 *Luftwaffe* helmet shows that when it was reworked it had been completely disassembled and the shell was painted inside the dome as well as the exterior. The helmet was then fitted with a wartime steel-framed liner. (Courtesy R. Richter)



This M40 *Luftwaffe* helmet originally left the factory with a single *Luftwaffe* eagle decal applied to the left side. It has been repainted by spray in rough texture *Luftwaffe* blue-grey paint on the exterior as well as the entire interior. The originally applied eagle decal can be seen showing through this over-paint making it evident that the helmet was not stripped of its factory paint prior to being reworked.

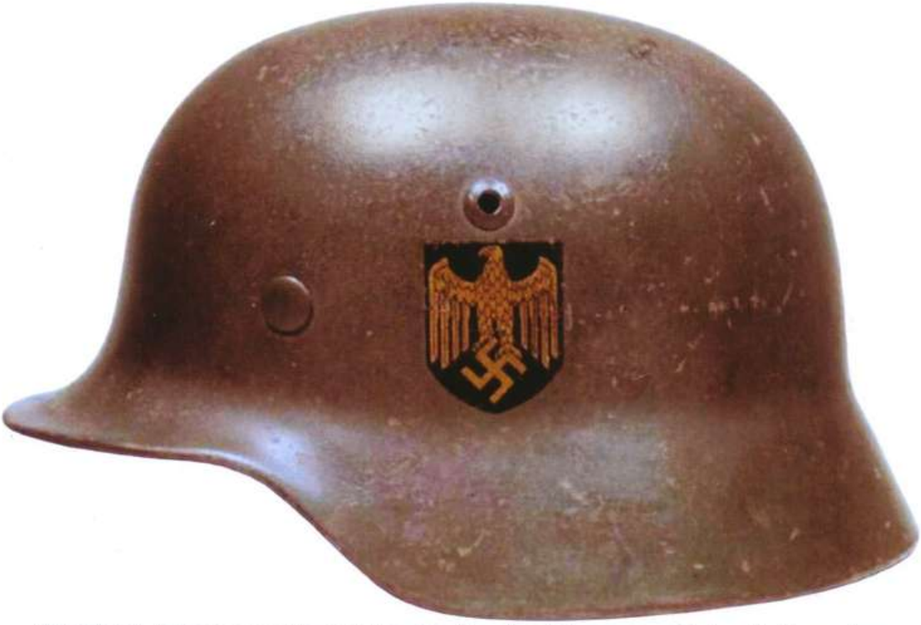


This view shows that the maker marking on this helmet has been obscured by the rough texture over-paint. The chinstrap is an unusual variant.

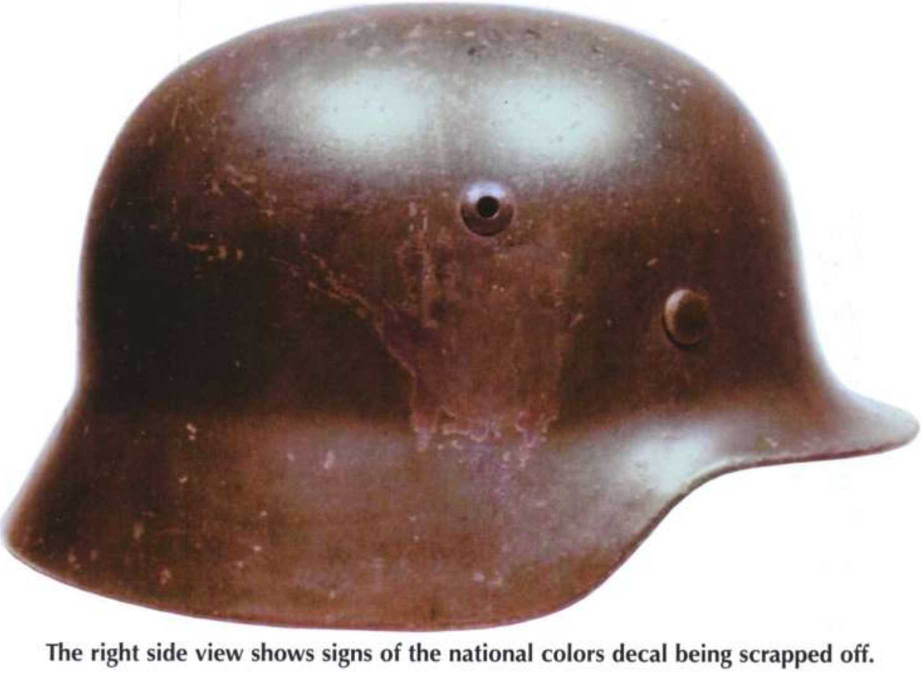


The inside view of this M40 reissued helmet shows that an early (1938 dated) non-reinforced liner has been installed. It should be considered unlikely that such an early manufactured liner remained in stock as a replacement. It is therefore probable that whichever facility did the rework of this helmet had disassembled a number of different helmets and reused components that were deemed to be still serviceable.

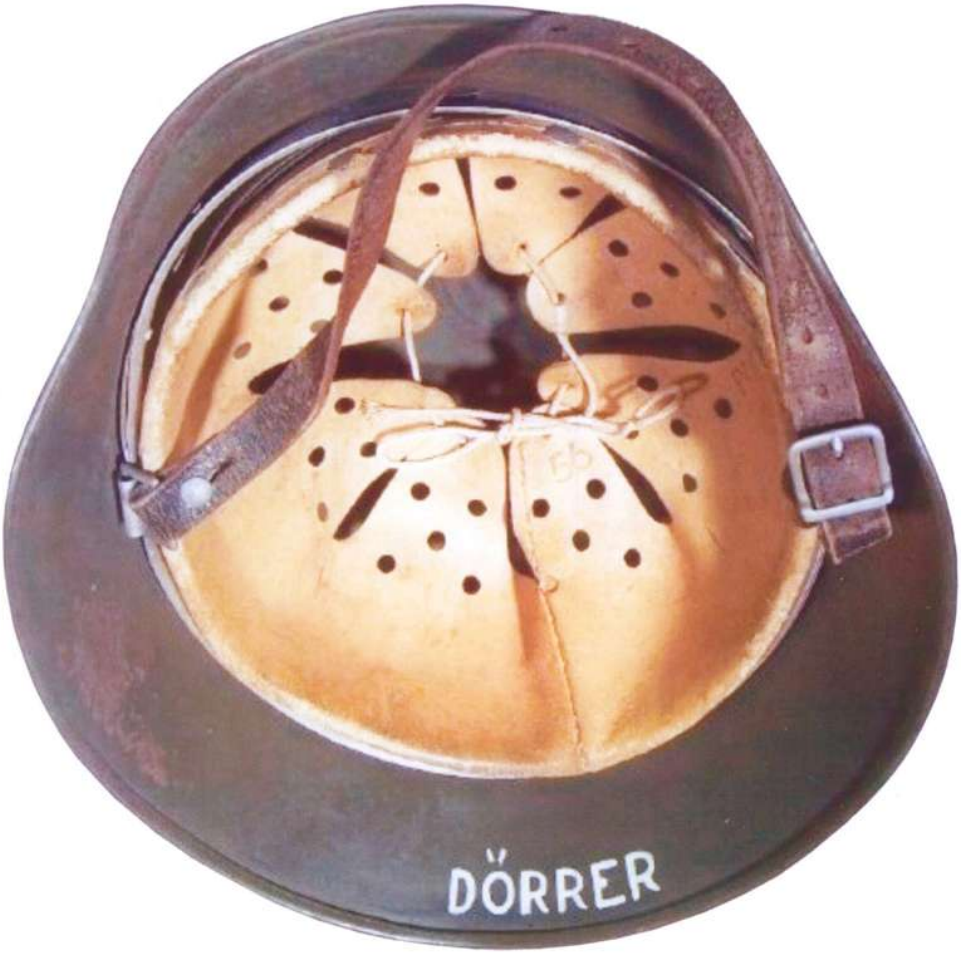
Reissue *Kriegsmarine* Helmets



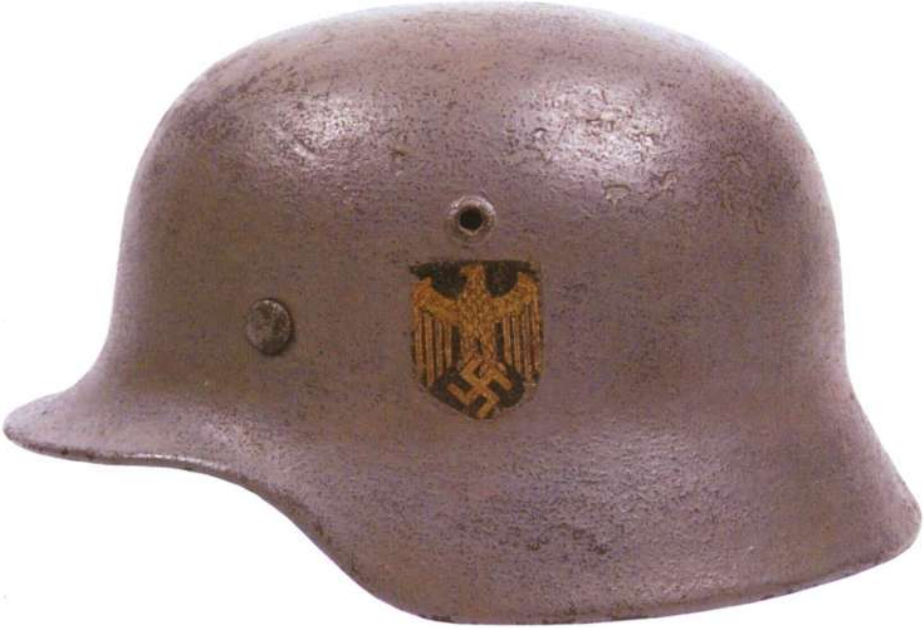
M35 ET-64 *Kriegsmarine* helmet bearing the classic layered gold decal. It was factory finished as a double decal but later modified or reissued as a single decal.



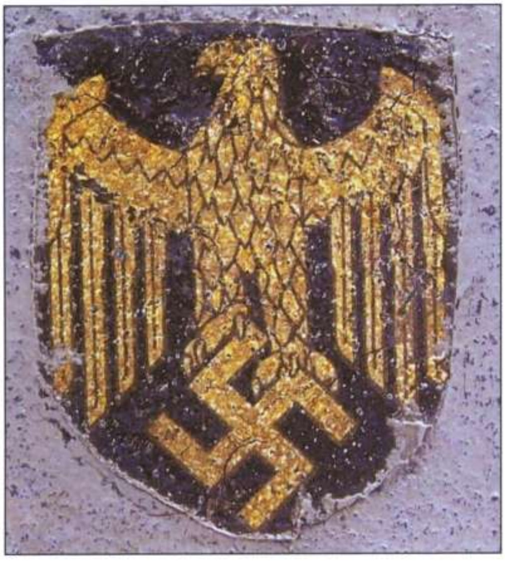
The right side view shows signs of the national colors decal being scrapped off.



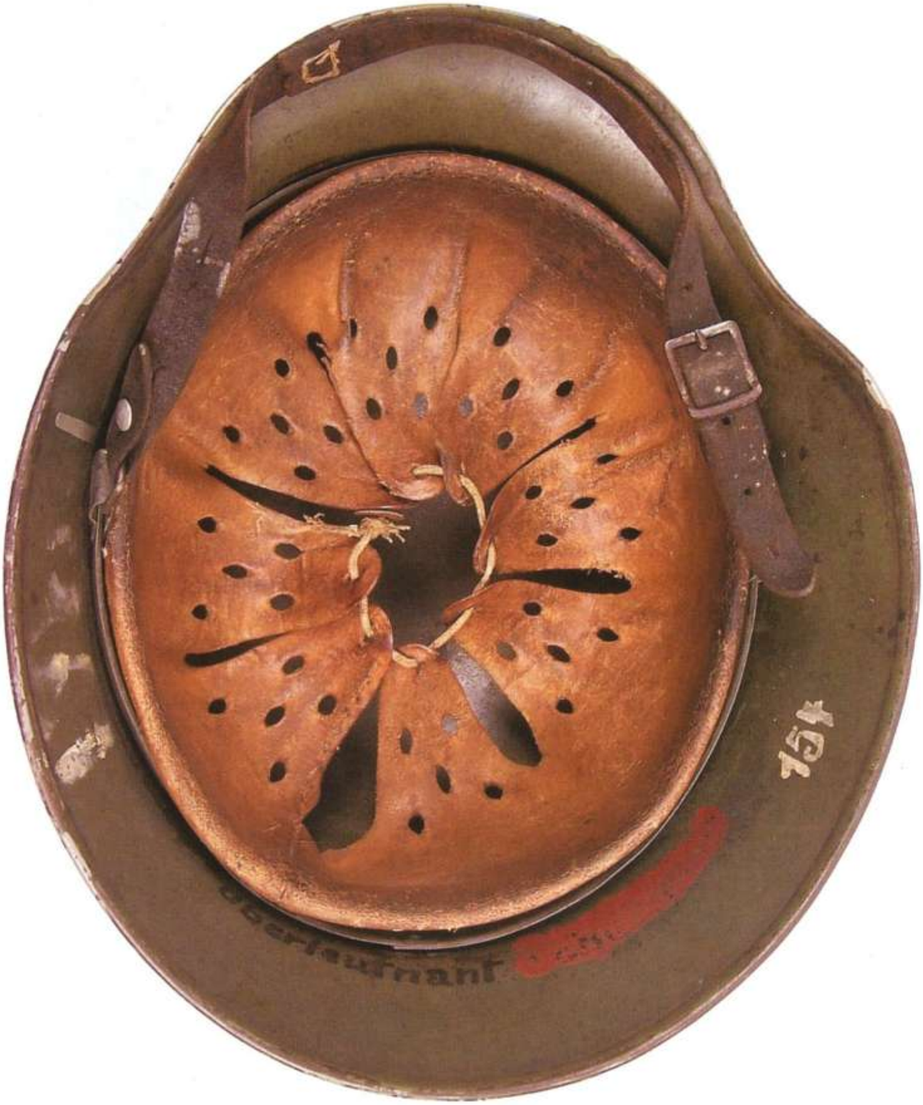
M35 ET-64 *Kriegsmarine* helmet displaying unmodified factory installed components which are dated 1939



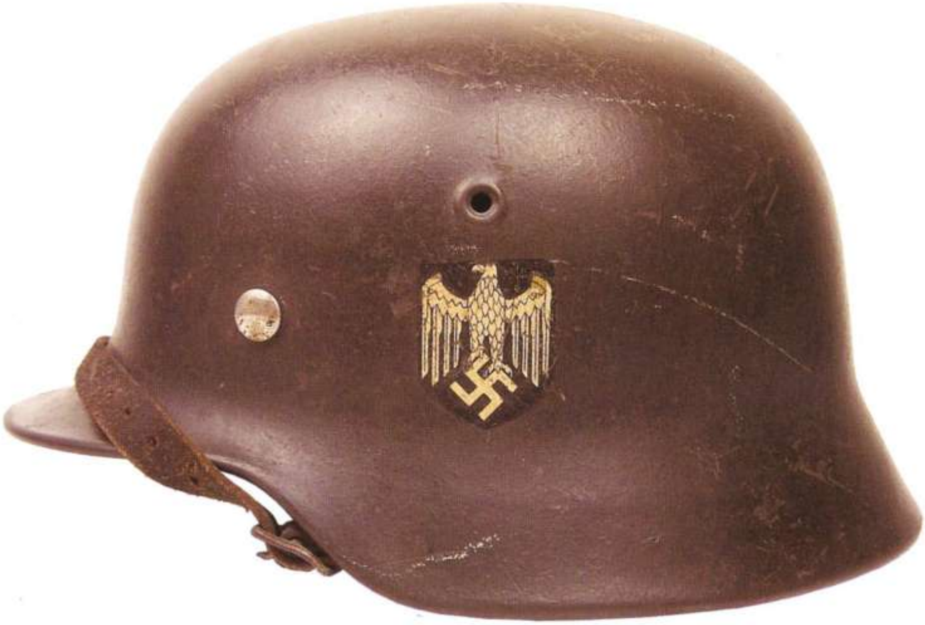
A helmet which has probably had a long career, this M35 SE-66 *Kriegsmarine* helmet has been modified and reissued several times. The inside of the shell remains in the original factory painted smooth texture *feldgrau* indicating that the helmet was originally assembled and finished as per 1935 specifications. (It may be assumed that it was originally a double decal *Kriegsmarine* helmet although this is not necessarily the case as many helmets were drawn from the stocks used by one branch of service and reissued to another branch.) Later, the exterior of the helmet was refinished with 1940 spec rough texture paint, a *Kriegsmarine* eagle decal was applied to the left side (with no corresponding national color shield) and a 1941 dated steel-framed liner was installed replacing the earlier aluminum-framed type. Later the surface of the exterior was over-painted with a coat of grey finish, presumably intended for ship-board use.



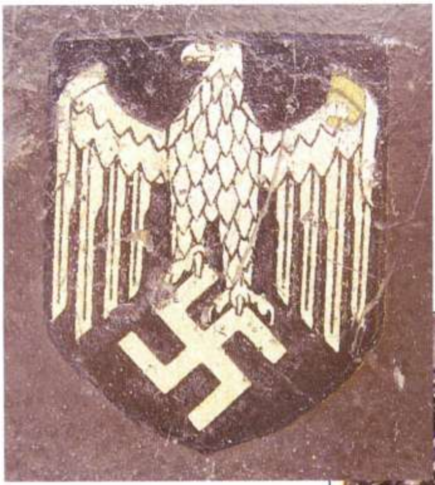
This detail of the insignia shows an early layered *Kriegsmarine* eagle decal which was applied over the 1940 spec repaint. Apparently a template was used to mask off this decal when the grey paint was later applied.



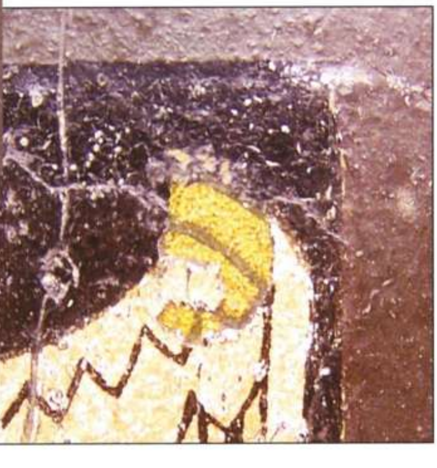
Interior of the SE-66 M35 *Kriegsmarine* helmet shows the steel-framed liner and the remaining early finish on the inside of the shell. There is grey paint spilled onto the inner rim, the chinstrap and (although not seen in the photo) the interior split-pin prongs. This indicates that the installation of the steel-framed liner pre-dates the application of the grey over-paint. A name had been painted onto the inner rim by one of the previous owners but has been painted over.



An example of a helmet which was reissued to a branch of service other than originally issued to. This ET-64 helmet left the factory with a gold, layered *Kriegsmarine* decal. Sometime afterward, a *Heer* eagle decal was applied over the KM decal. (Courtesy R . Church)

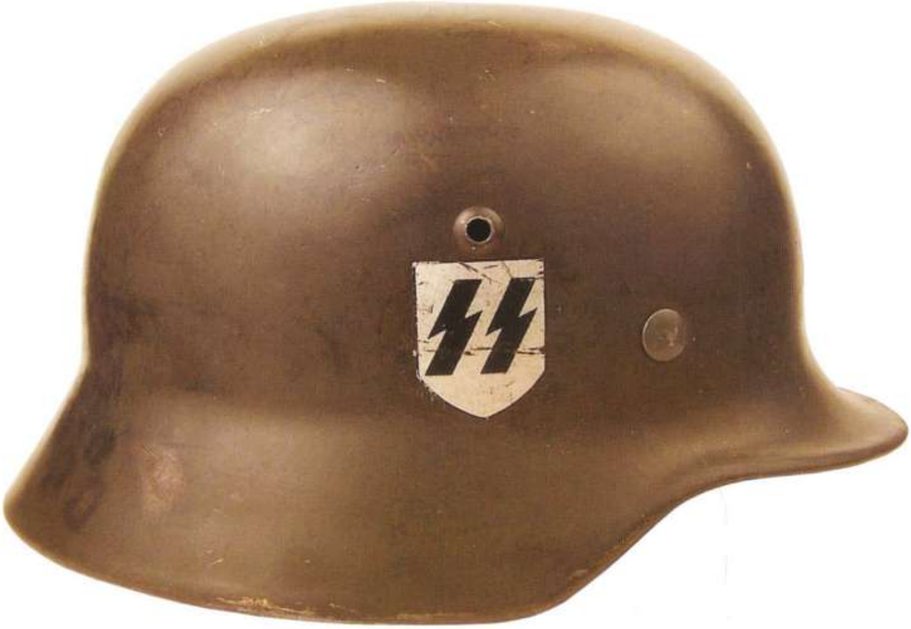


The *Heer* decal is shown here applied over the factory KM insignia. It is a classic example of a Pocher decal which was widely used in "after-the-factory" applications.

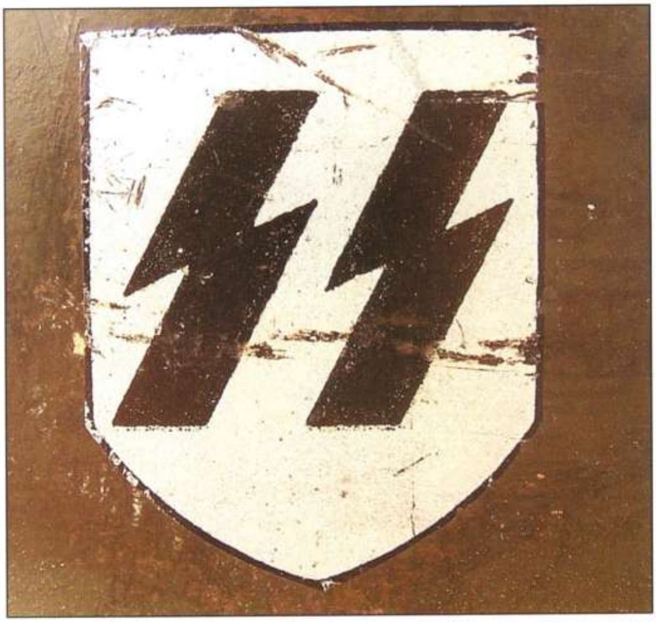


This close-up of the upper right wing of the *Heer* eagle clearly shows the underlying KM decal.

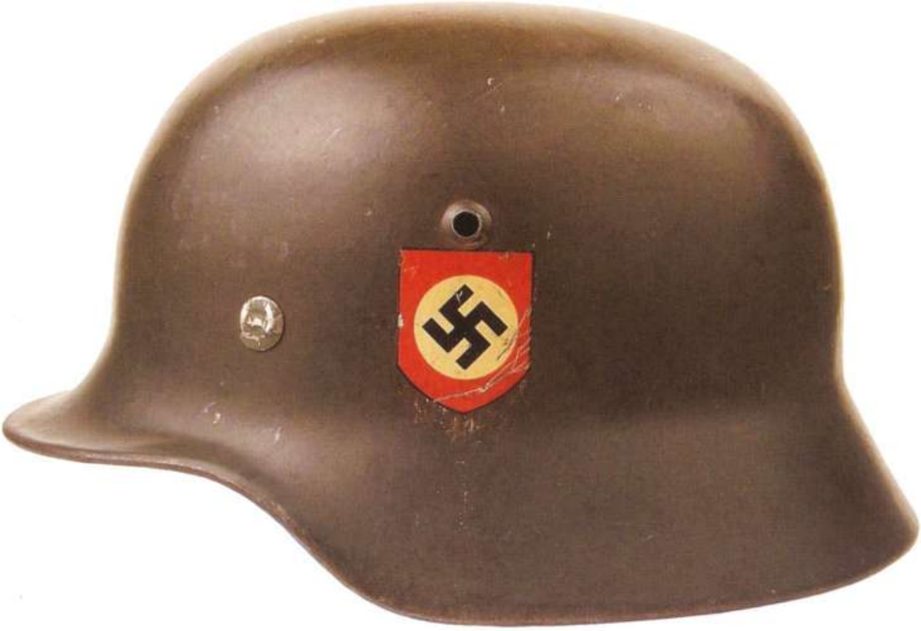
Reissue *Waffen-SS* Helmets



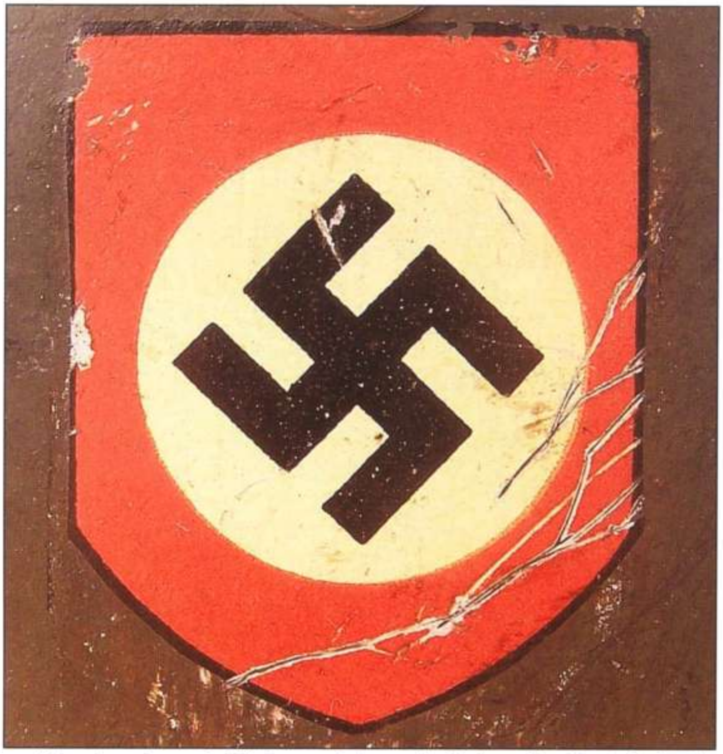
This EF-64 M35 helmet shows an after-market replacement of the insignia. A Pocher SS runic decal has been placed on the right side after the removal of a previous decal.



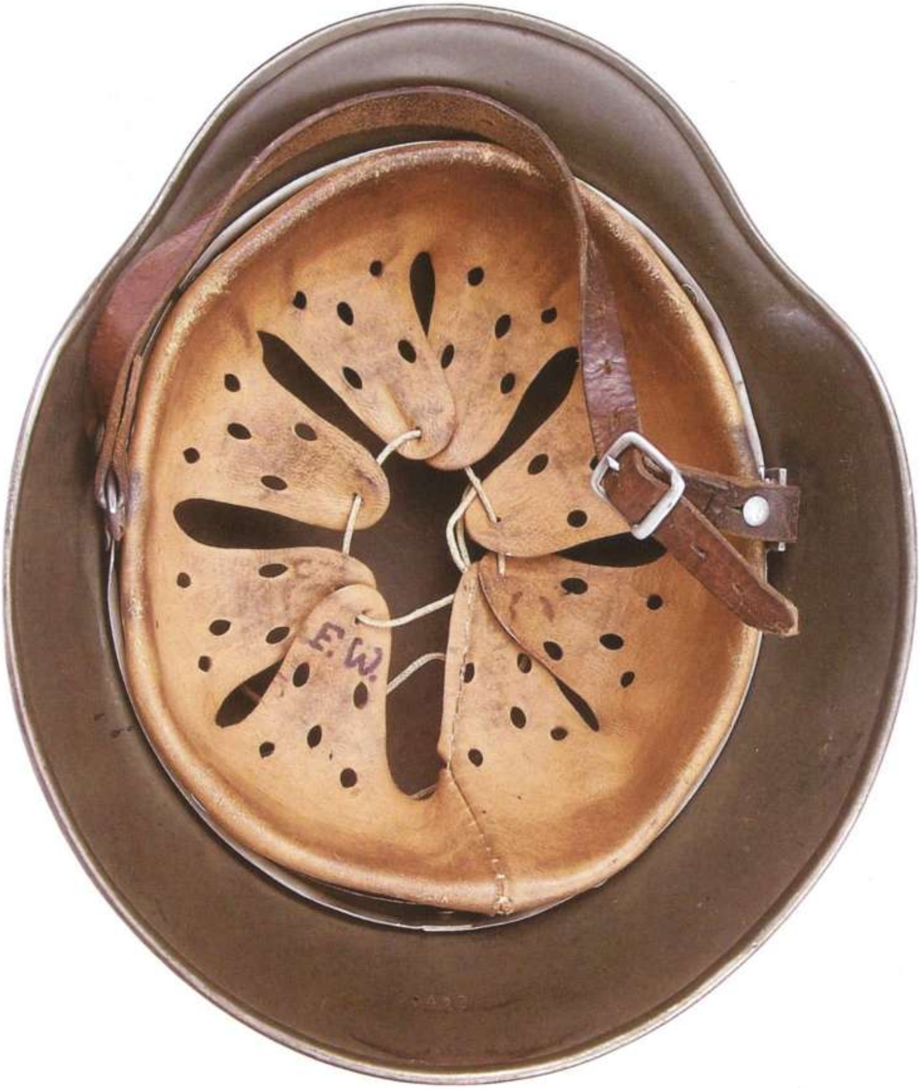
A close-up photo of the Pocher runic decal applied to the EF-64 M35. Scratch marks are evident in the areas surrounding the decal indicating the removal of a previous decal.



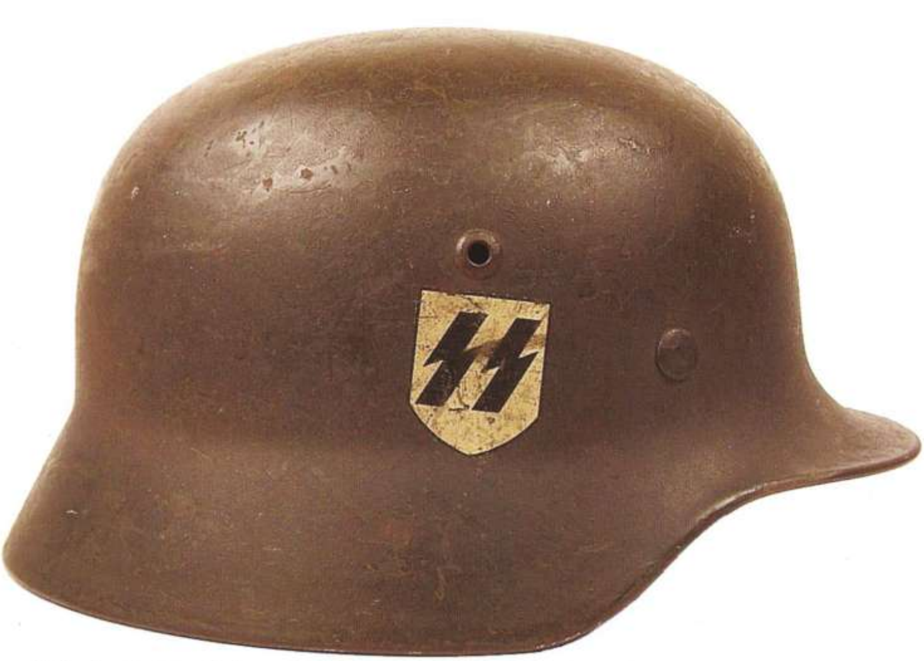
The right side of this EF-64 helmet shows the placement of a typical Pocher Party shield.



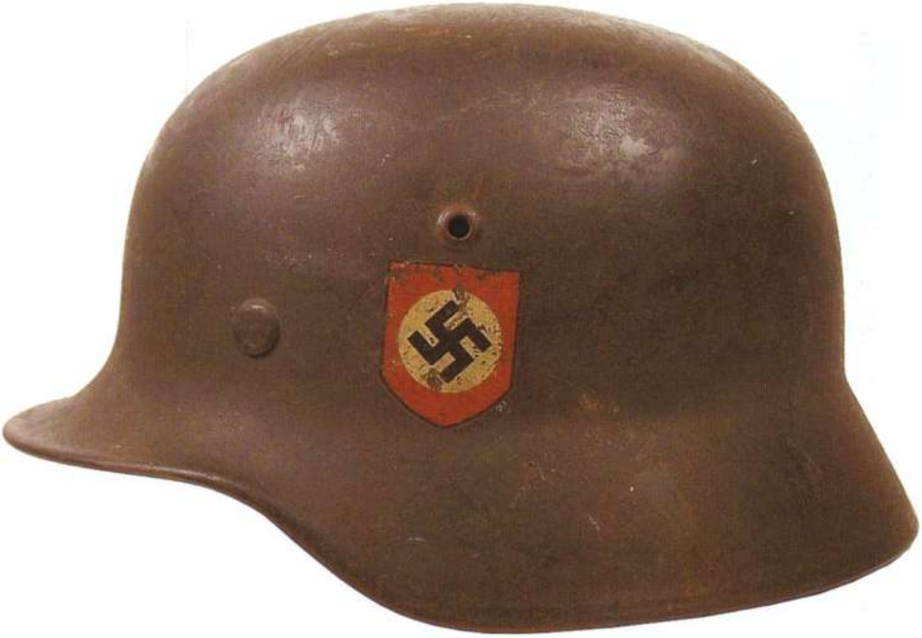
This view likewise shows tell-tale scratch marks below the Party insignia which were caused during the removal of the original factory applied decal.



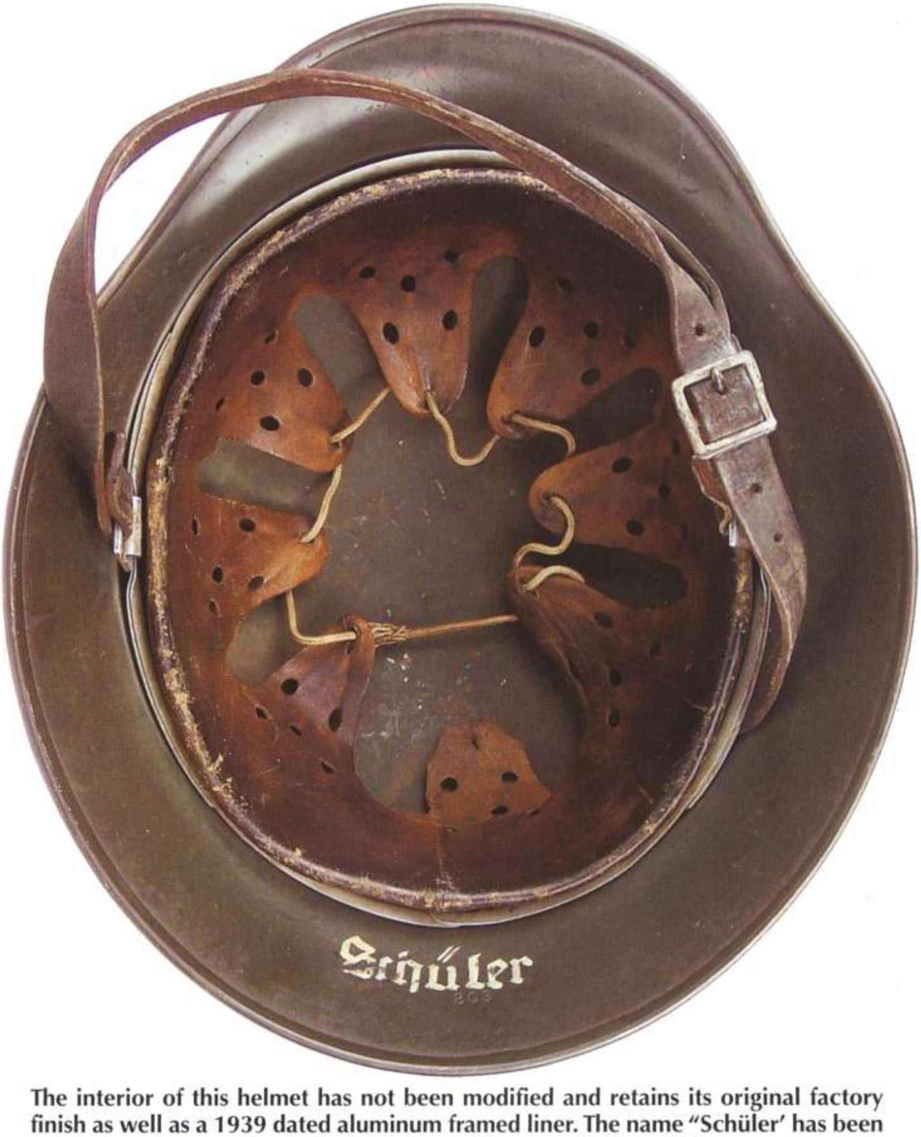
A view of the liner of the EF-64 helmet shows no further modifications. The 1938 dated liner and original chinstrap remain in place as installed at the Fulda factory.



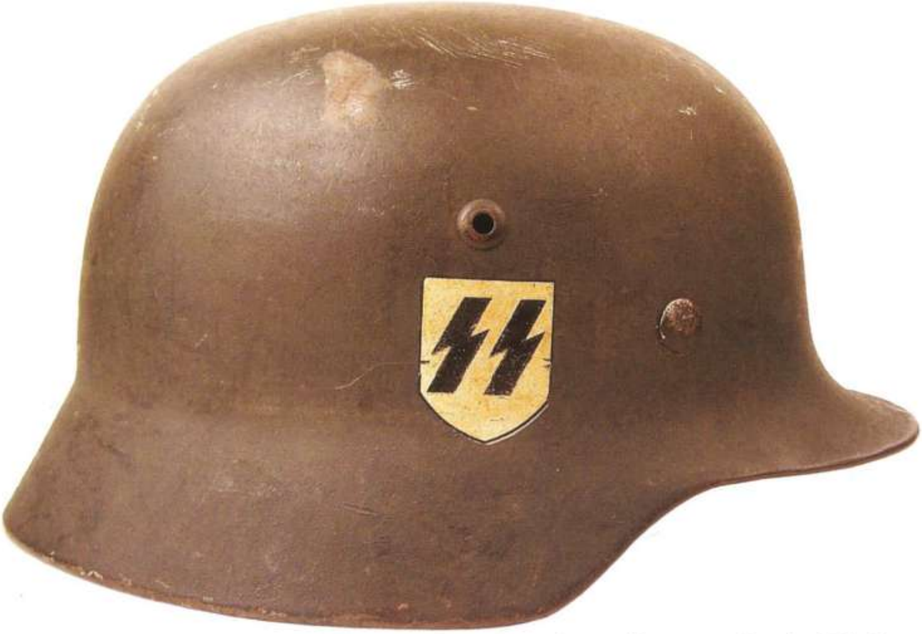
This Q-64 M35 helmet has been modified for reissue by the exterior being repainted in wartime textured paint. C.A. Pocher insignia have been applied over the textured paint. The significant cant of the runic shield indicates less than stringent quality control. Interestingly, this helmet was obtained from a U.S. Army veteran in 1987 who at that time recounted how it was captured near Carentan, Normandy "just a week or so" after the D-Day landings. (Courtesy G. Eigenfeld)



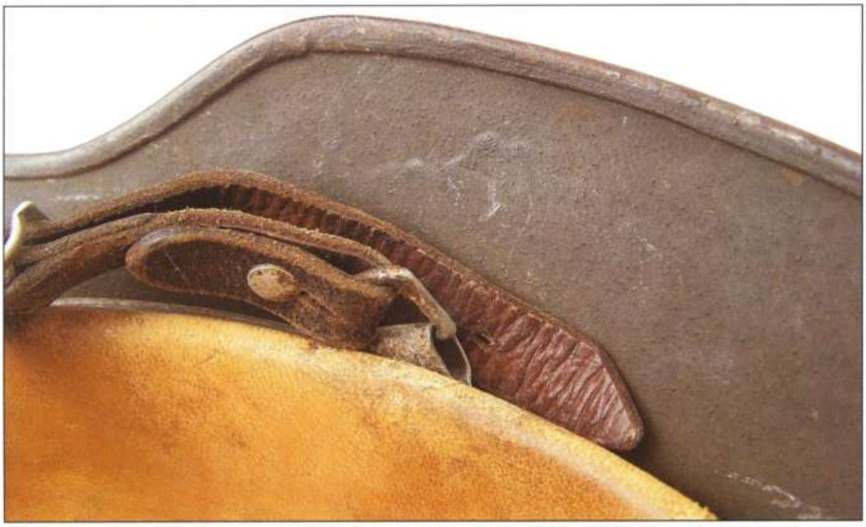
This photo of the left side shows a C.A. Pocher Party shield with a similarly off-set application. (Courtesy G. Eigenfeld)



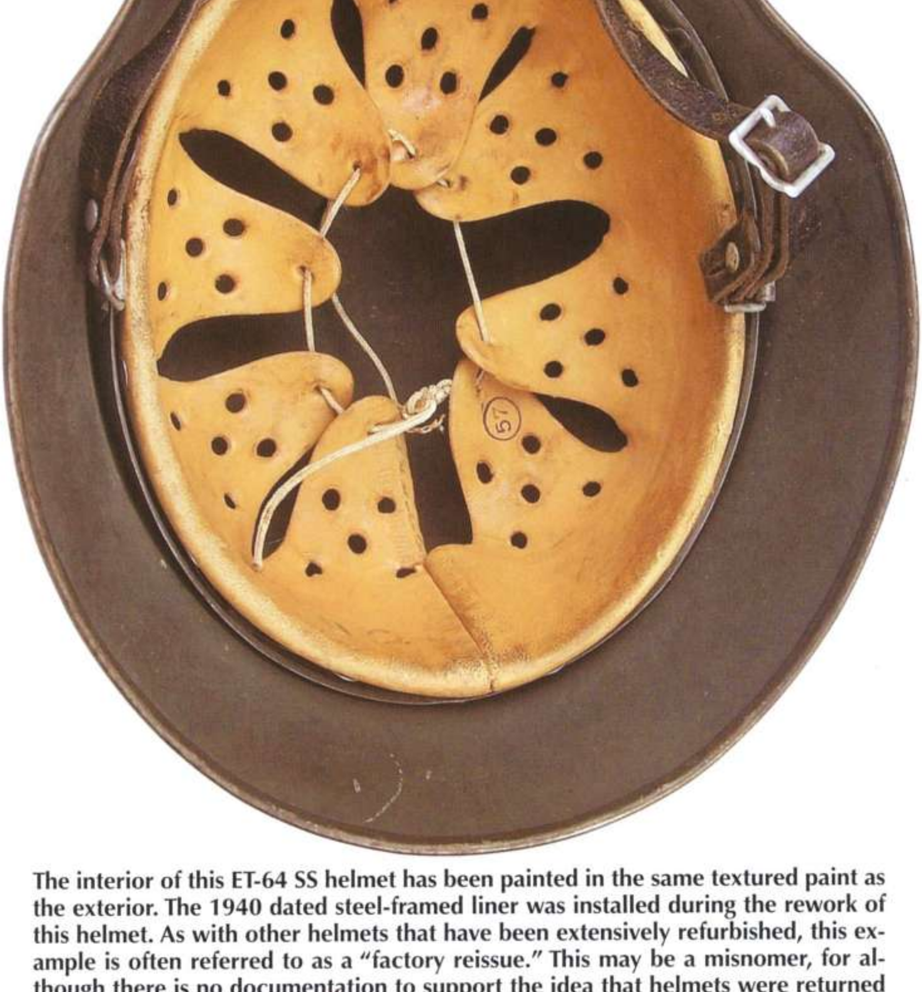
The interior of this helmet has not been modified and retains its original factory finish as well as a 1939 dated aluminum framed liner. The name "Schüler' has been painted on the rear rim in Gothic letters. (Courtesy G. Eigenfeld)



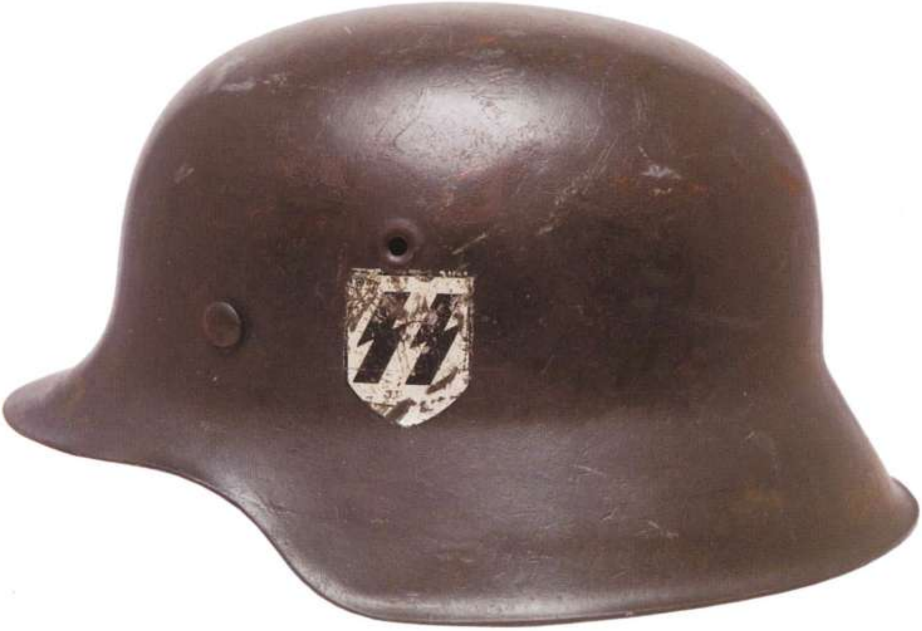
An M35 ET-64 reissued SS helmet. It bears a Pocher replacement decal which is applied over a repainted shell.



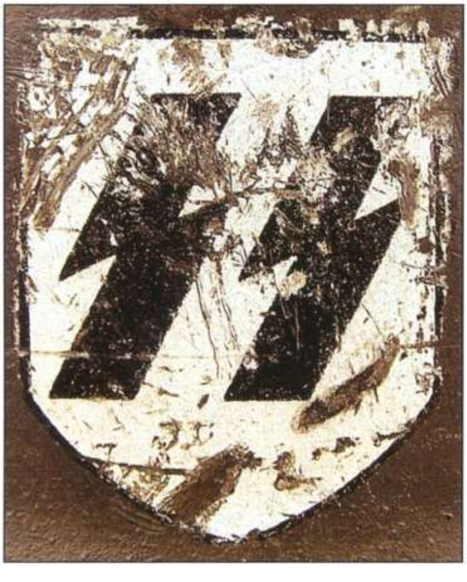
The maker mark is barely visible at the right side of this ET-64 rework. Note the textured paint used on the interior as opposed to smooth textured paints found on the insides of factory painted helmets. This difference is almost universally observed when comparing factory finished helmets to helmets refinished elsewhere. Certainly, a helmet which has a smooth painted interior as opposed to the rough texture paint of the exterior would have to have been painted in separate stages using separate paints and probably separate machinery. It is logical that such preparation was performed in a substantial facility such as existed in either of the major factories. In the case of a reworked helmet, the utilization of the same paint on both interior and exterior would allow the elimination of a major stage in refinishing the shell.



The interior of this ET-64 SS helmet has been painted in the same textured paint as the exterior. The 1940 dated steel-framed liner was installed during the rework of this helmet. As with other helmets that have been extensively refurbished, this example is often referred to as a "factory reissue." This may be a misnomer, for although there is no documentation to support the idea that helmets were returned directly to the factories to be refurbished, it is clear that the rebuilding was done in a place where suitable facilities existed to strip and repaint shells as well as stock new replacement liner assemblies.

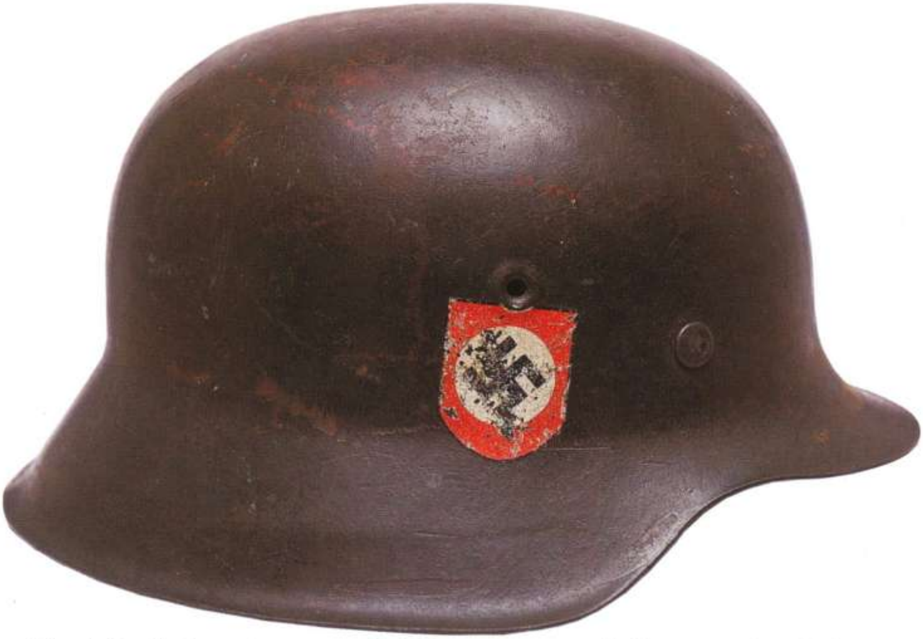


This EF-64 helmet was modified for reissue to personnel of "foreign" SS units. Photographic evidence of these helmets in use shows the majority of the units to be composed of Ukrainian or Balkan volunteers. Although rarely encountered, most examples appear to be as this one; an EF police helmet which has had a C.A. Pocher runic decal applied over a police decal. It is theorized that in 1943 when Heinrich Himmler authorized the creation of these formations a large number of EF produced police helmets was ordered modified for issue to the members. Surviving examples are, of course exceedingly rare as the vast majority of these eastern SS troops fell to the Red Army. Correspondingly, few examples of these helmets would thus have survived to reach the post-war collector market. (Courtesy D. Buhler)

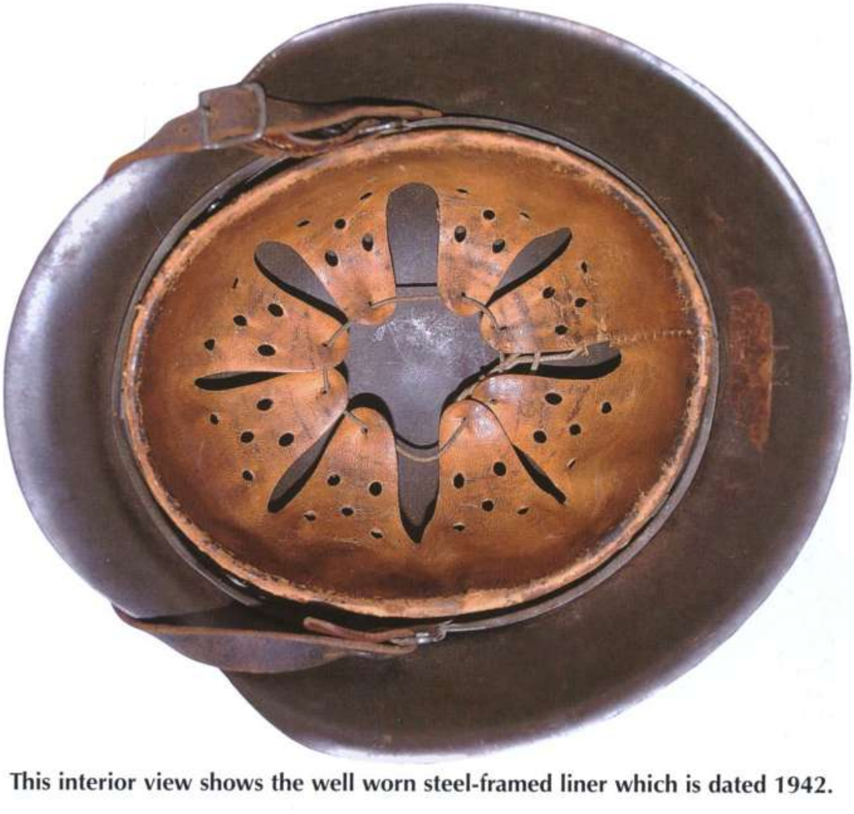


The C.A. Pocher decal shows evidence of a previous decal being removed before its own application.

Otto Spronk Photo Collection

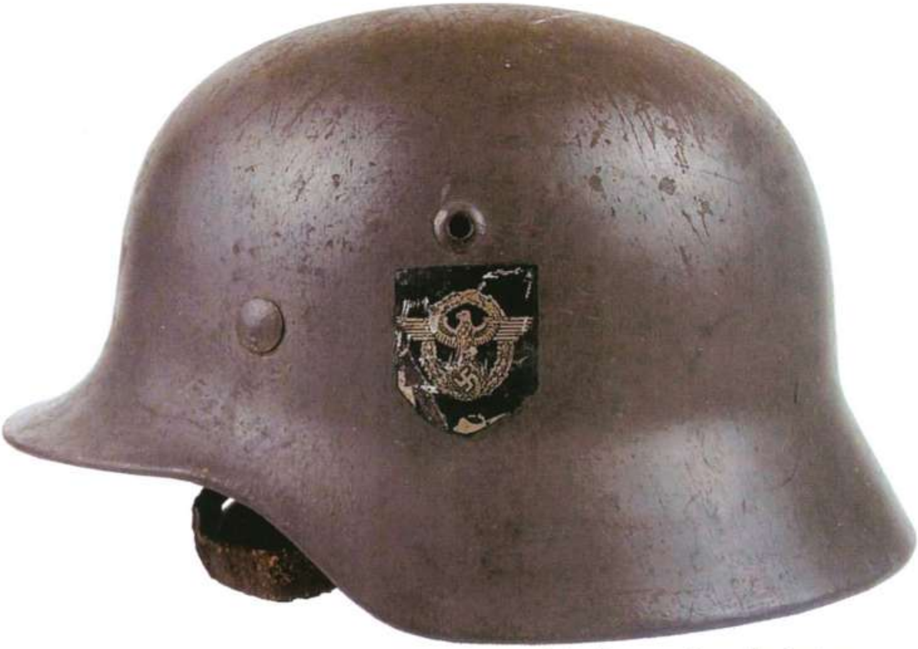


The right side has a factory applied EF pattern Party shield most noticeable by its narrow shape and relatively rounded bottom. In this case, the Party shield has been rather sloppily applied, showing a pronounced cant.

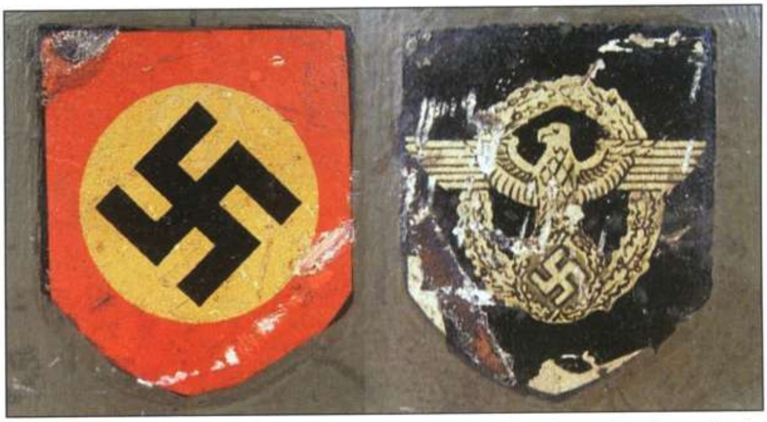


This interior view shows the well worn steel-framed liner which is dated 1942.

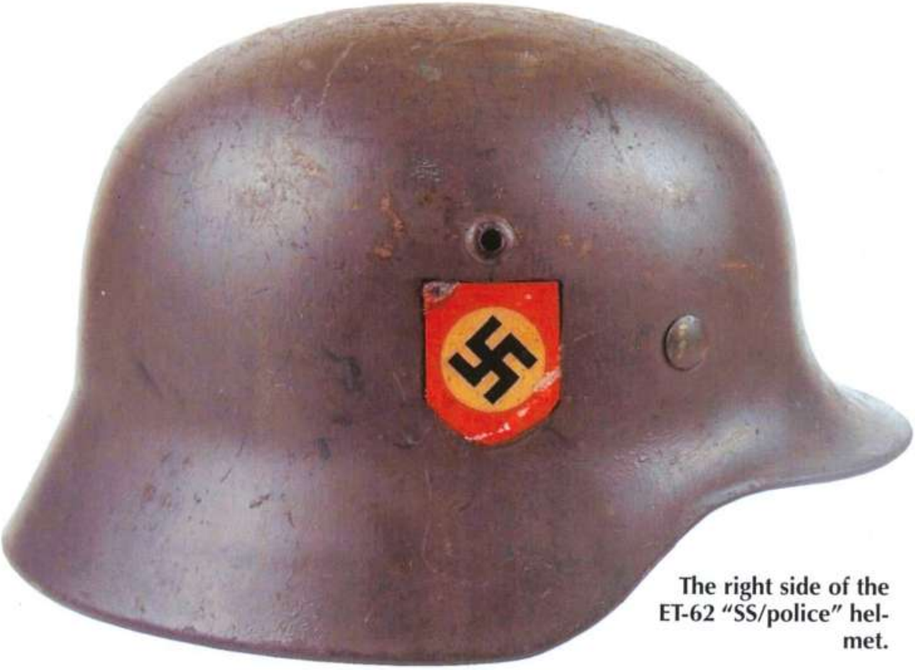
Reissue Field Police Helmets



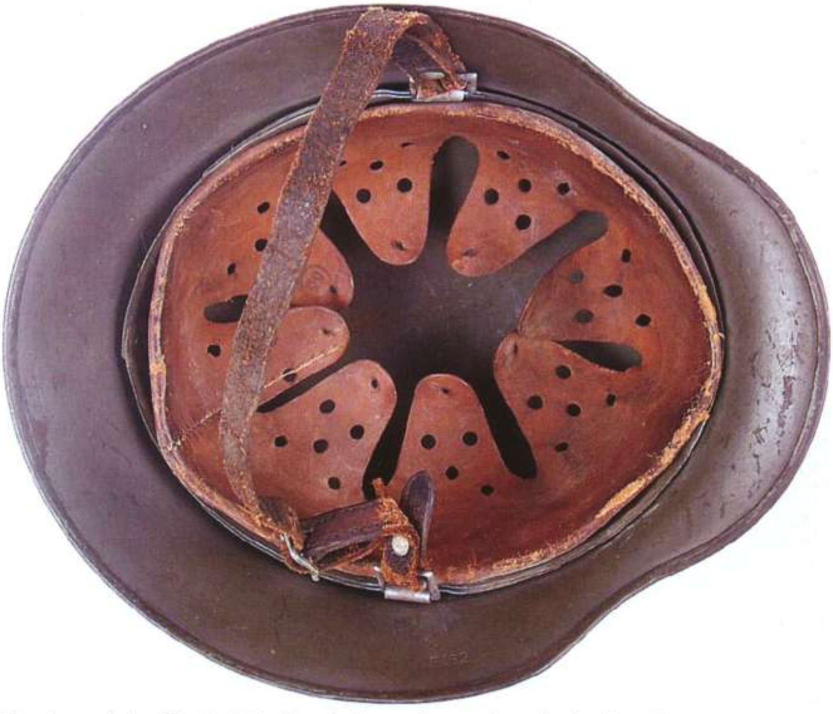
It is quite probable that this M35 ET-62 helmet originally came from the factory as a Gendarme/police helmet. At some point, a Pocher type SS runic decal was applied over the police decal. Since the position of the SS decal and the Party shield would have then been reversed, it is unclear why the runic shield was applied on this side. At some point afterward, the helmet shell was repainted by brush in smooth texture *feldgrau* paint. Both the SS and the Party decals were painted around. Still later, a police decal was applied over the Pocher SS shield.



The above photo shows the "history" of this helmet clearly. At the time the helmet surface was repainted, both the Party and the SS shield were painted around although the *feldgrau* over-paint has covered portions of the edges of these two decals. The police decal at right was obviously applied over the repainted surface. Since the Party shield appears to be the original factory applied decal, it may be assumed that a police decal lies beneath the Pocher SS shield.



The right side of the ET-62 "SS/police" helmet.



This view of the ET-62 SS/police helmet shows that the inside skirt was repainted by brush at the time that the exterior was repainted. Paint has spilled onto the liner band. The inside dome of the helmet retains its original factory finish. There is a 1939 dated acceptance stamp which is not in view.

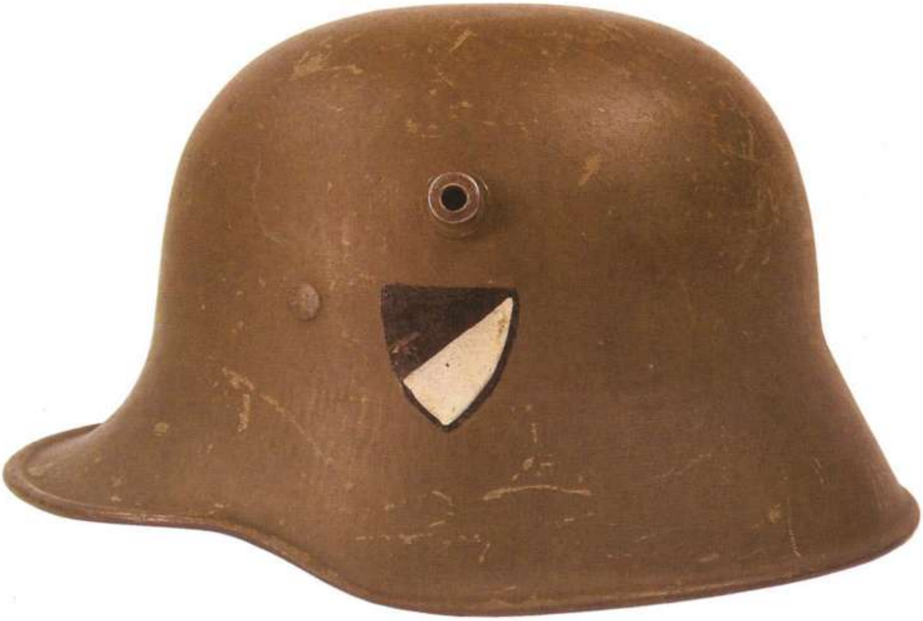
"Transitional" Helmets

"Reissued" helmets appear in many different configurations depending upon what helmet shell was being refurbished and to which set of specifications.

There are many examples of World War I era helmet shells that have been modified as per specifications set down by officials of the Third Reich. The collecting community has applied the general term of "transitional helmet" to all of these. But in fact, by its own definition, the term "transitional" should only be used for such World War I era helmets as were refurbished for use between the world wars and before the new Model 35 helmets came into wide usage. In fact, the majority of World War I era helmets that have been reworked for use by the armed forces of Nazi Germany have been reworked according to wartime specifications. As such, they may more correctly be termed as reissued helmets.

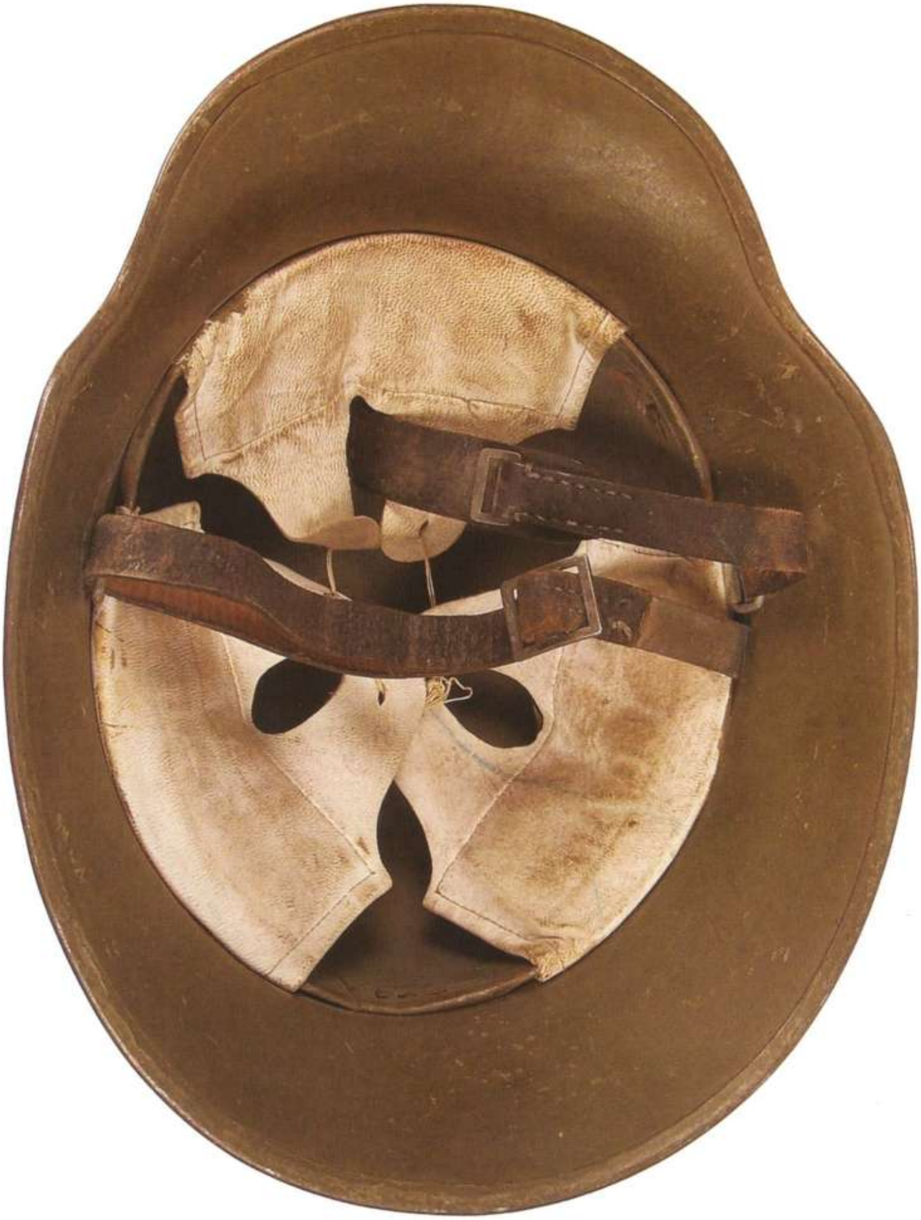
An example of a true "transitional" helmet would be a World War I era Model 1916 or 1918 that has been refurbished according to 1935 specifications. That is, with a coat of M35 smooth texture paint applied either over a stripped helmet or a helmet which still retains its original pre-1918 painted finish, or a World War I era helmet which has retained its original factory finish but has had an M31 liner system installed and decals applied to both sides of the exterior.

The more commonly found reissued World War I era helmet has been refurbished according to 1940 (or later) specifications, i.e., the application of textured paint with either no decal or a single decal affixed to the exterior. This helmet cannot accurately be referred to as a "transitional" model as it does not appear in the transitional period before the Model 35 helmet came into wide usage.



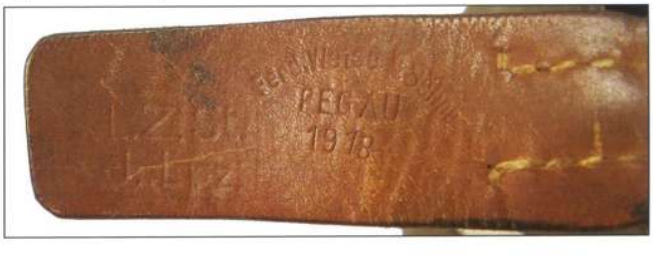
Although not to be considered a Third Reich era helmet, this Model 1918 is an example of one of the earliest reissues. It has been repainted over the exterior and has a hand-painted shield with the Prussian state colors. According to Ludwig Baer, provincially based membership by units of the *Reichswehr* was instituted in 1922. Thus, units of each state were authorized to apply insignia consisting of the state colors. Such insignia were used until 1933 and the creation of the armed forces of the Nazi government.

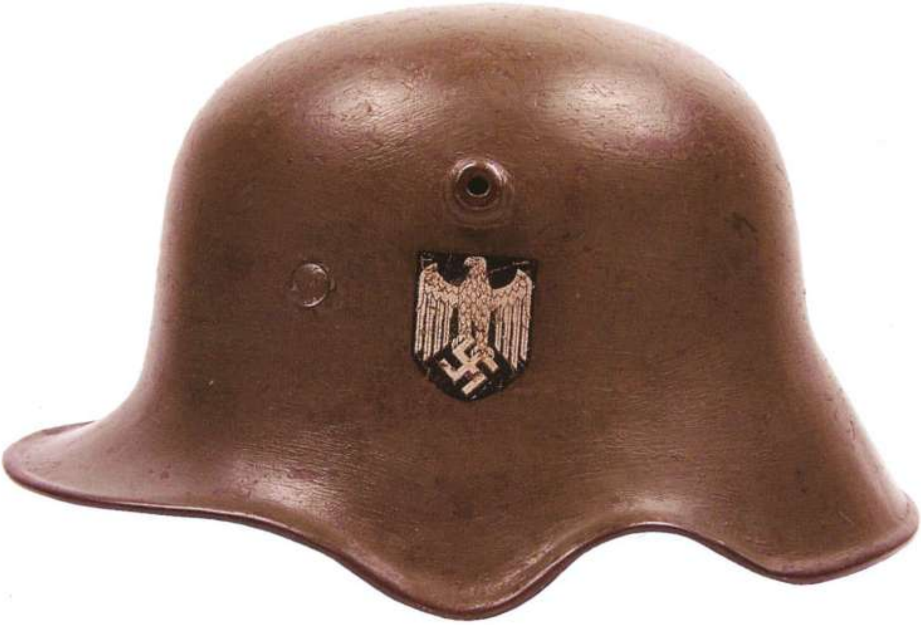
Otto Spronk Photo Collection



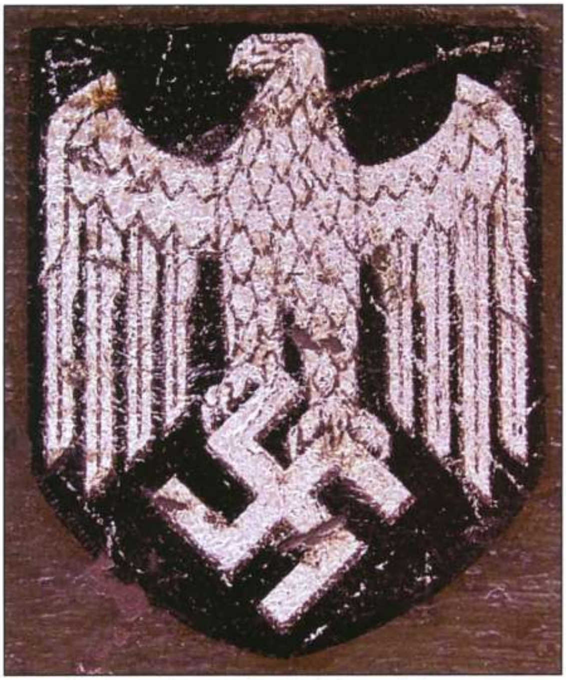
This view shows the repainted inner skirt of this 1918 model helmet. The M1918 carbine-hook chinstrap has been dyed black on the outer side

Markings found on the inward side of the M1918 chinstrap show its date of manufacture as well as unit acceptance.

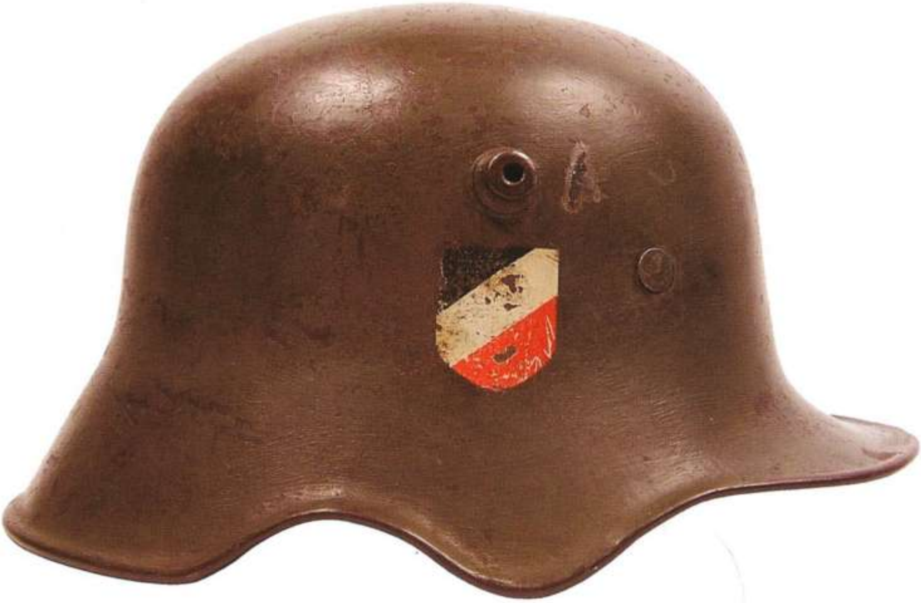




This helmet may be correctly termed as "transitional" since it was apparently reworked very early after the institution of Hitler's *Wehrmacht* (probably before the advent of the M35 helmet); it would thus have filled the role of a combat helmet during the transitional period. The M1918 "cut-out" shell has been brush-painted over the original WWI finish.

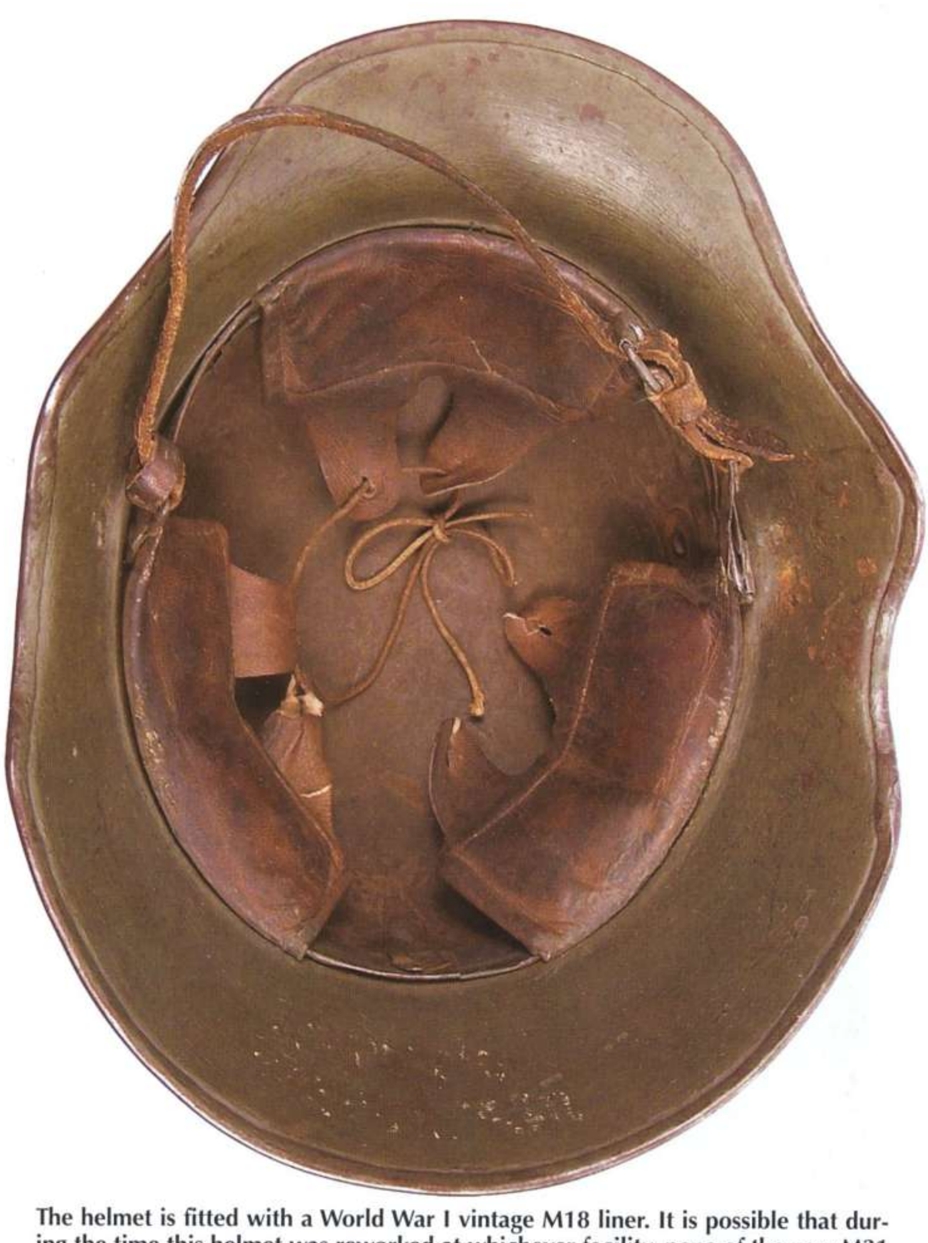


The *Heer* eagle decal is an early grey-lined variant of the type later used on ET factory finished helmets.

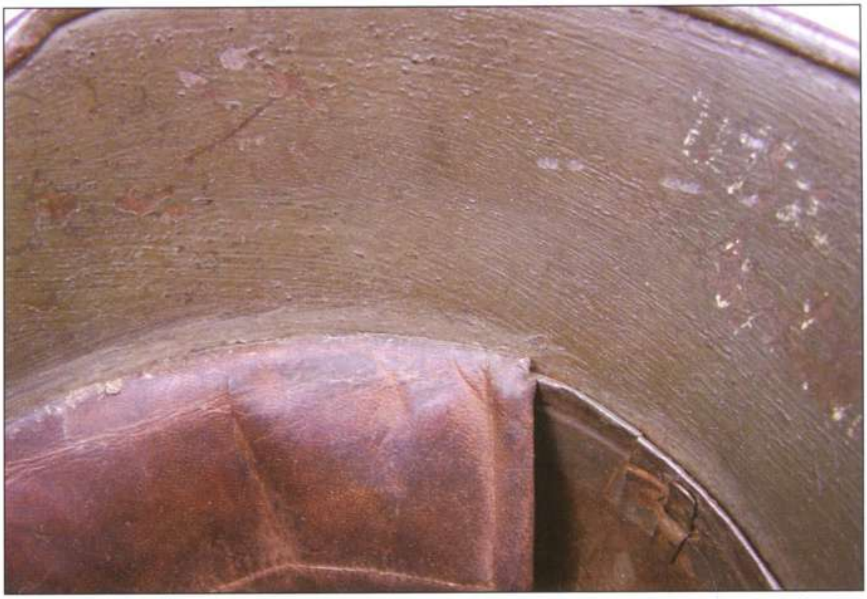


The right side shows the national color shield.

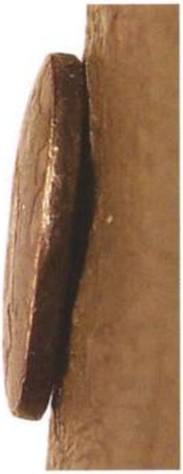
Berliner Zimnfiguren via Otto Spronk



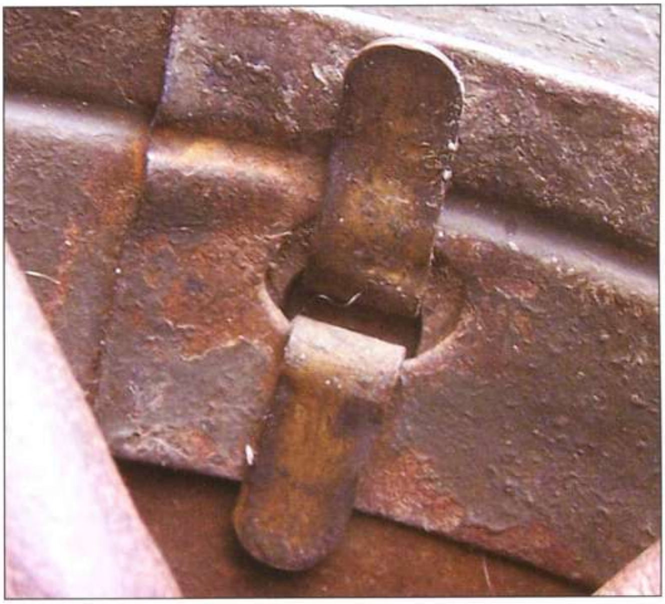
The helmet is fitted with a World War I vintage M18 liner. It is possible that during the time this helmet was reworked at whichever facility, none of the new M31 liners were yet available. The chinstrap is a 1920s or early 1930s carbine hook type.



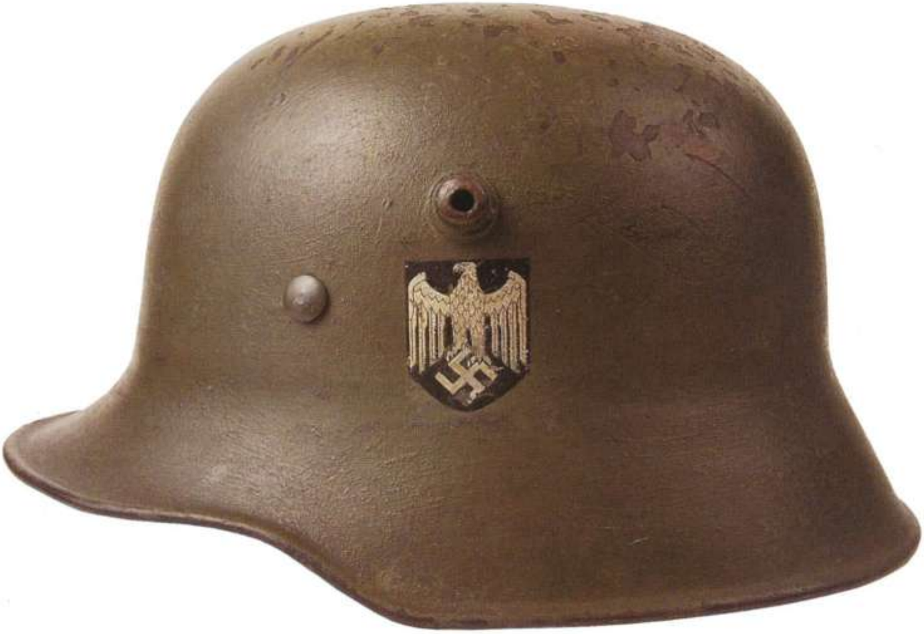
This close-up shows the brush strokes evident on the inside rim. Note that the inside of the helmet has been painted only up to the liner band (with paint spilled on the leather) indicating that the liner was not removed during the repaint.



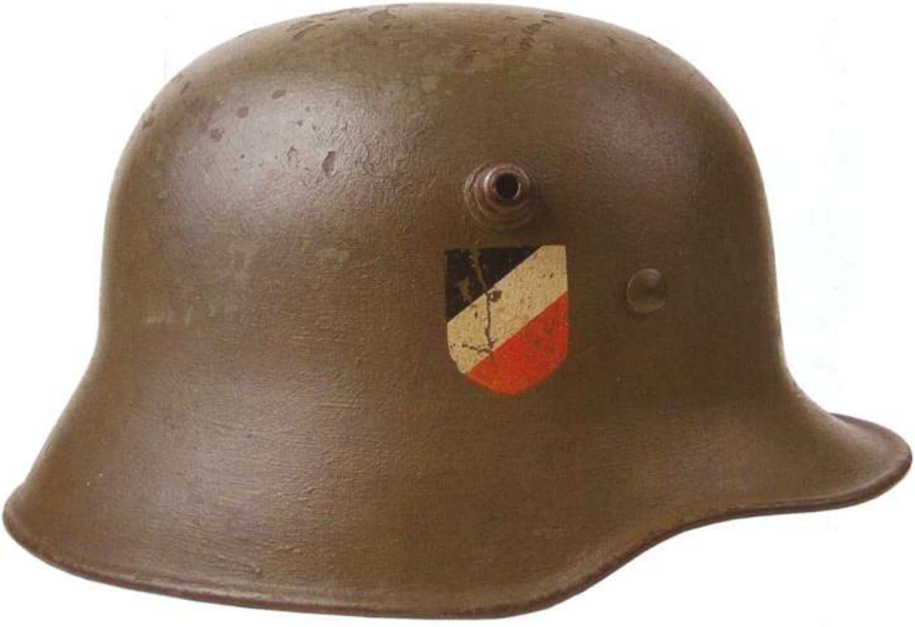
Although the shell and liner of this transitional helmet are of World War I vintage, the split-pins used for the attachment of the liner system have been changed. The heads are wider than the World War I types yet are constructed much the same, the prongs being simply welded to the flat heads. This is in contrast to the three-piece head of the Model 31 split-pins seen used with the Model 35 and later helmets.



This inside view of the split-pin prongs shows that no washers have been used as on later helmets.

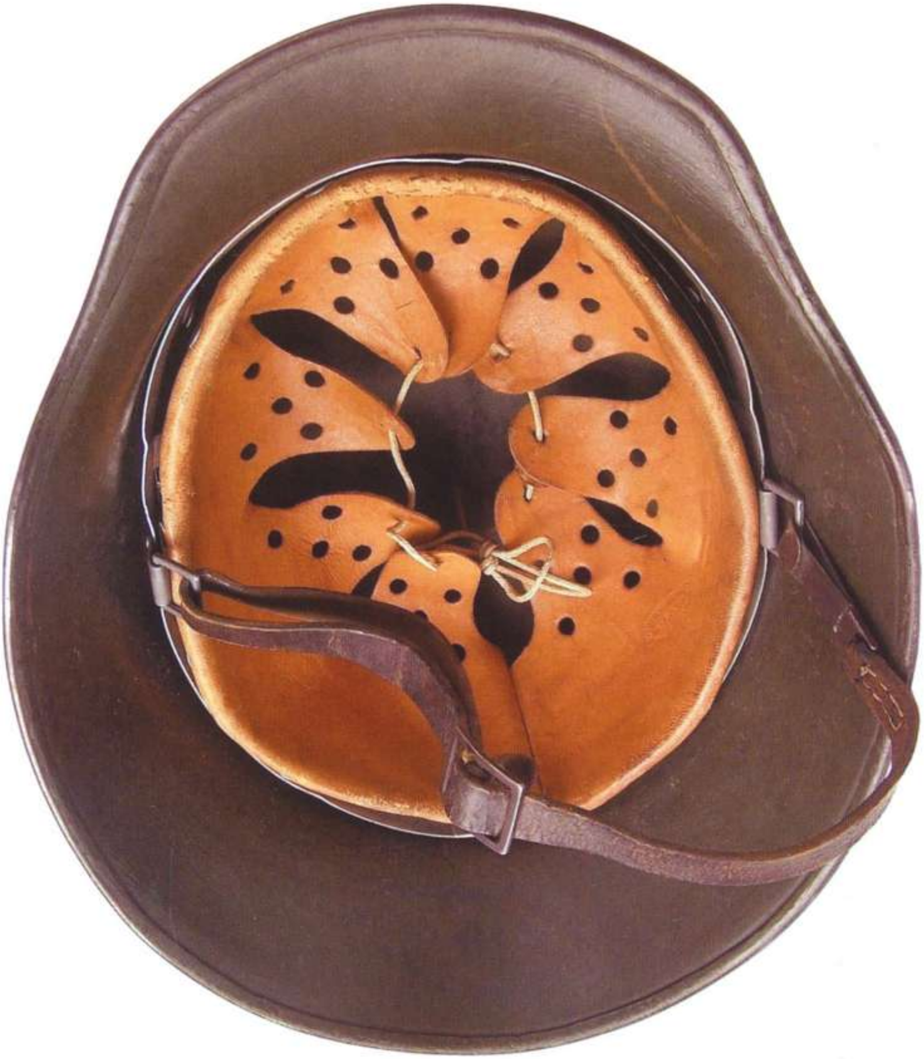


Another "true" transitional helmet; this is a Model 1918 helmet which has been brush-painted with smooth texture "M35 style" *feldgrau* paint and carries an early grey-lined insignia of the *Heer*.

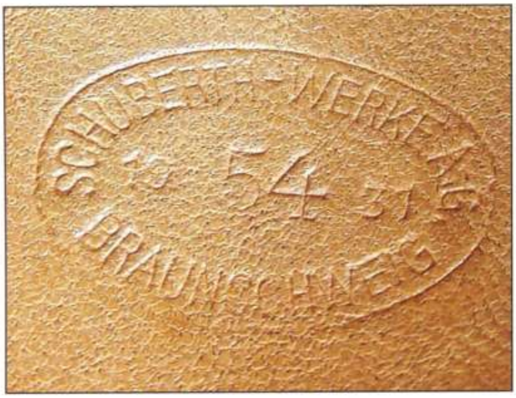


The helmet's right side shows the national color shield applied over the brush-painted finish.

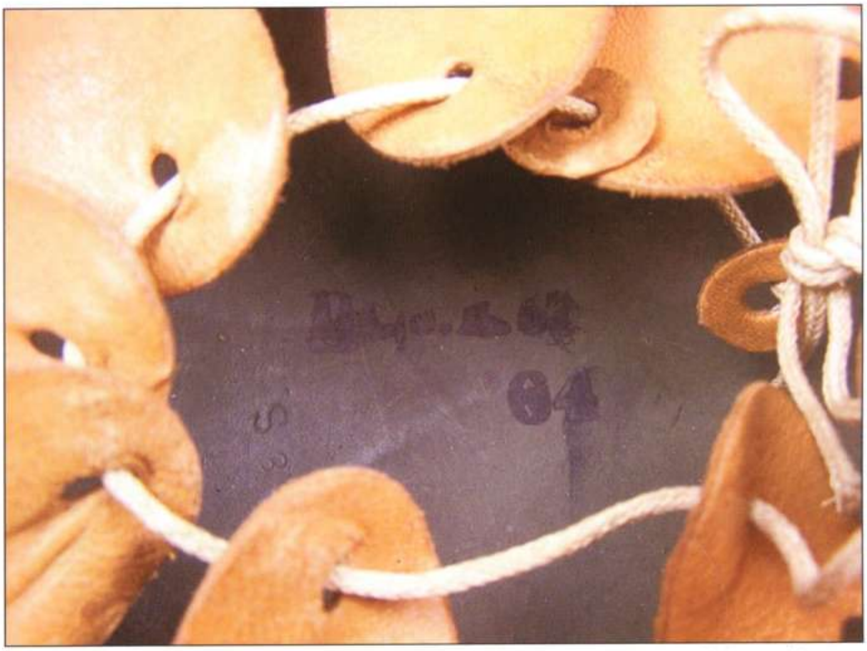
Otto Spronk Photo Collection



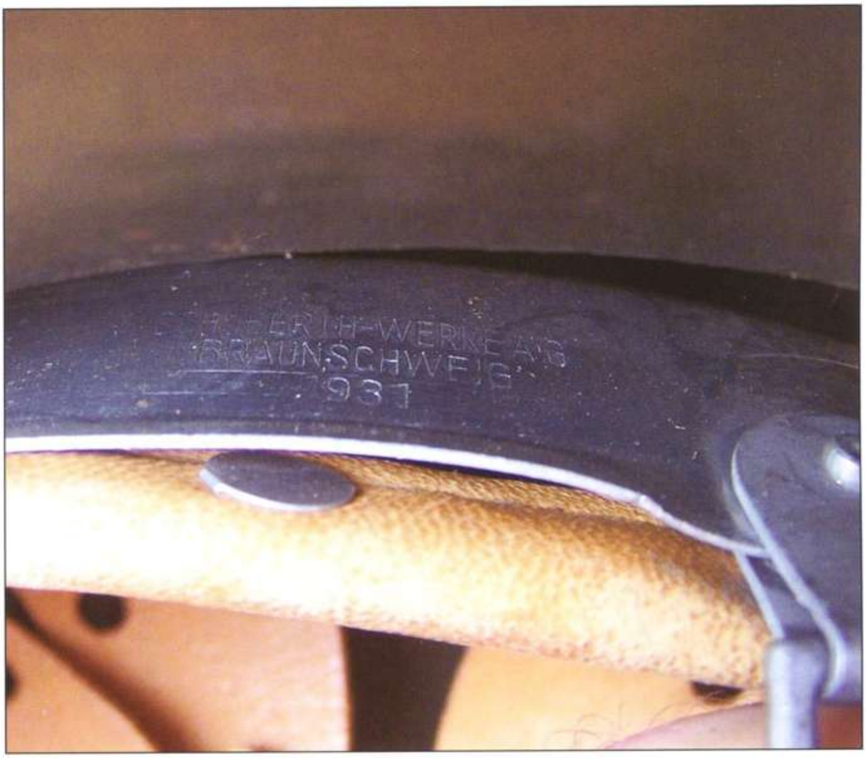
This photo shows the M31 liner which has been installed in this reworked M1918 helmet. Note the early style chinstrap with its carbine hook attachment.



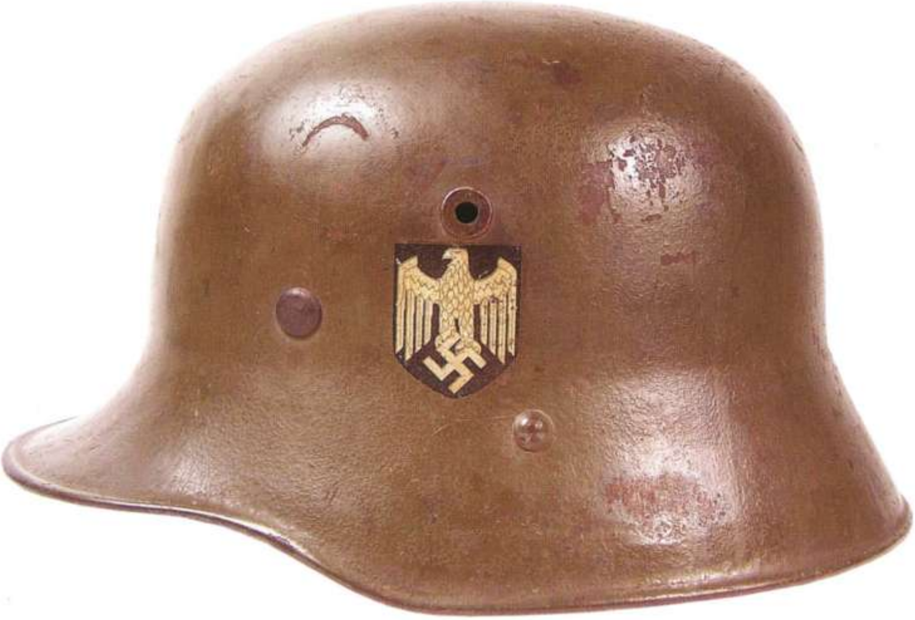
This oval die-stamp is found on the leather of M31 liners manufactured until 1936. Afterwards, the size marking was replaced by an ink-stamp noting only the metric size of the liner with no date or manufacturer being indicated.



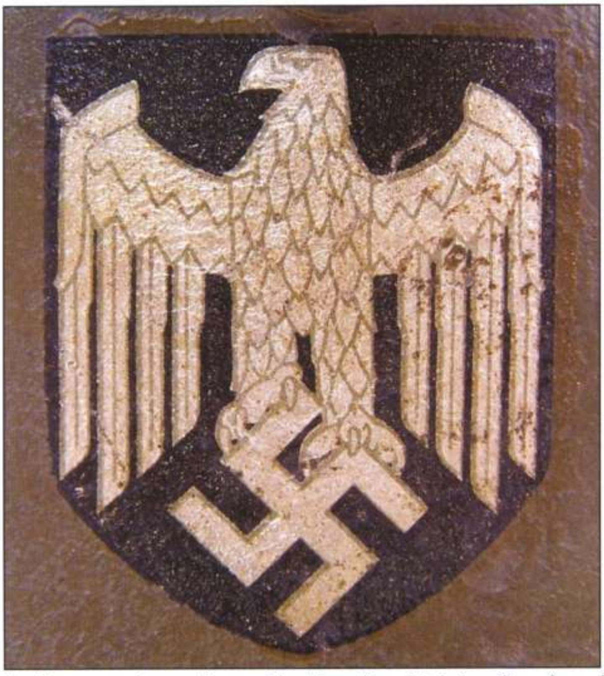
The inside dome of this helmet has been ink-stamped with the shell size. This was often done because the size markings that were die-stamped into the shell were prone to being obscured during the re-painting process.



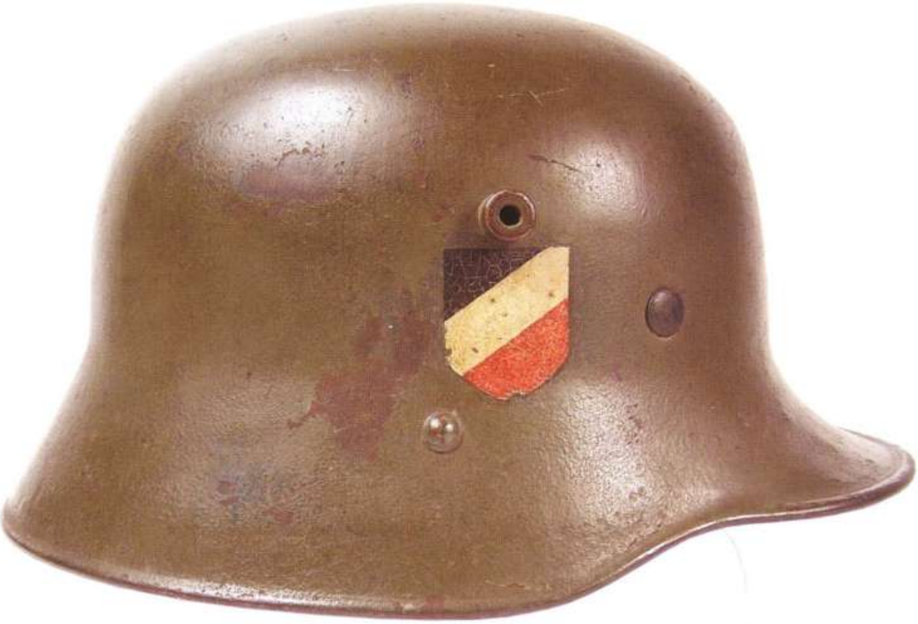
Close-up view of the maker mark found on the earliest M31 liner systems.



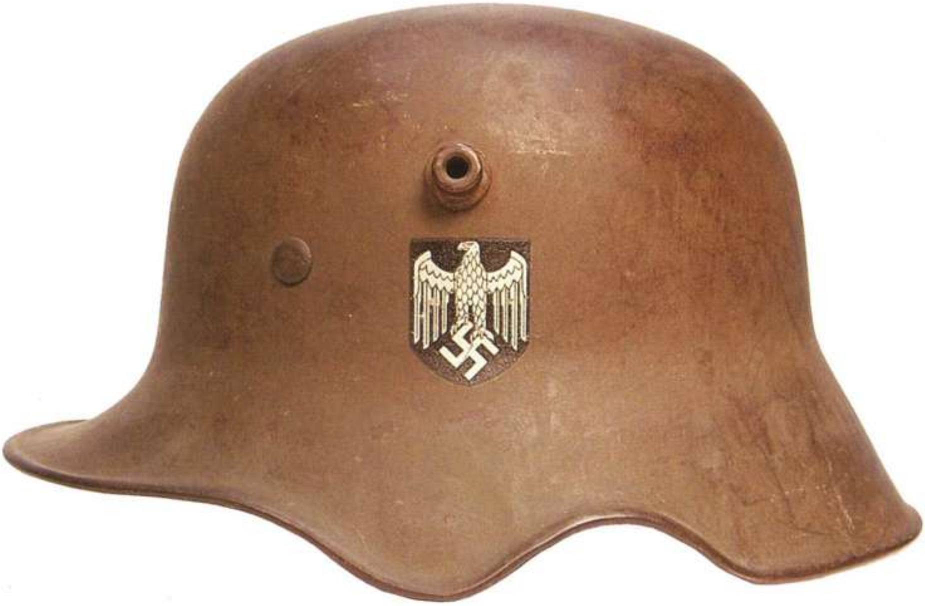
This Austrian M16 helmet was stripped of its WWI brown finish and repainted with M35 spec *feldgrau* paint. It was refitted with an M31 liner. Austrian helmets which have been modified to German specifications are not uncommon and may result either from Austrian helmets existing in German military stocks since WWI or helmets procured by the Germans after the annexation of Austria in 1938.



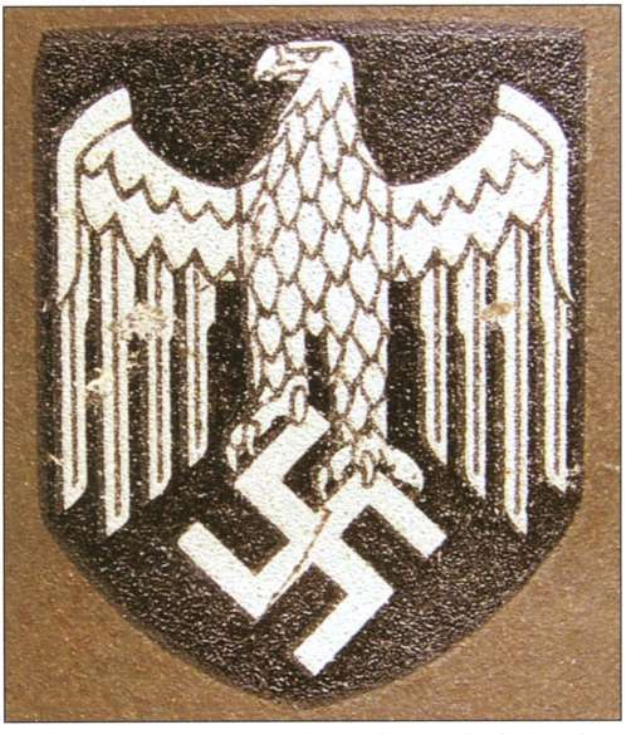
The insignia is the same type of grey lined eagle which is often found on reworks and some early factory finished M35 helmets.



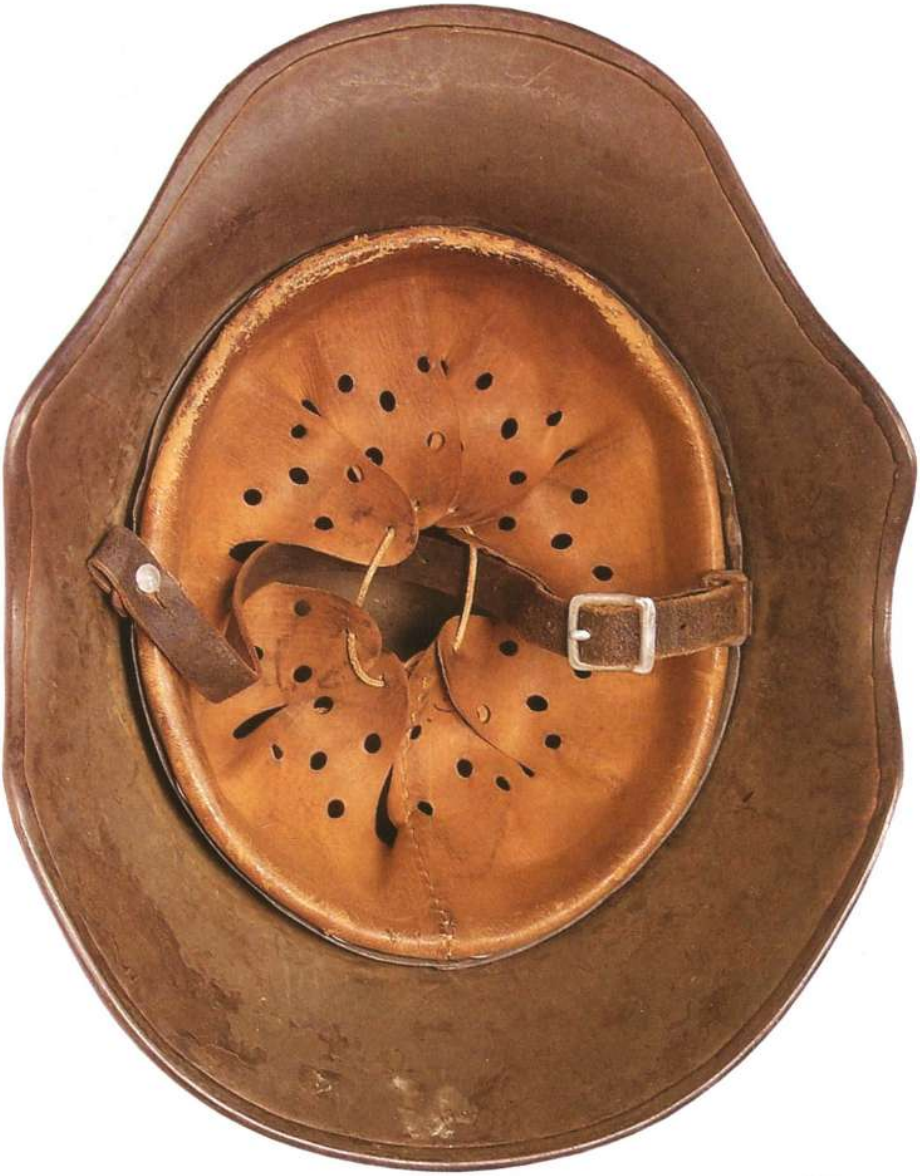
The application of the national colors shield would seem to suggest the reissue of this helmet prior to 1940, although there is a substantial number of double decal Austrian helmets found with 1940 dated liner frames suggesting that a large batch of helmets was taken from seized Austrian stocks and refurbished just before the adoption of M40 specifications.



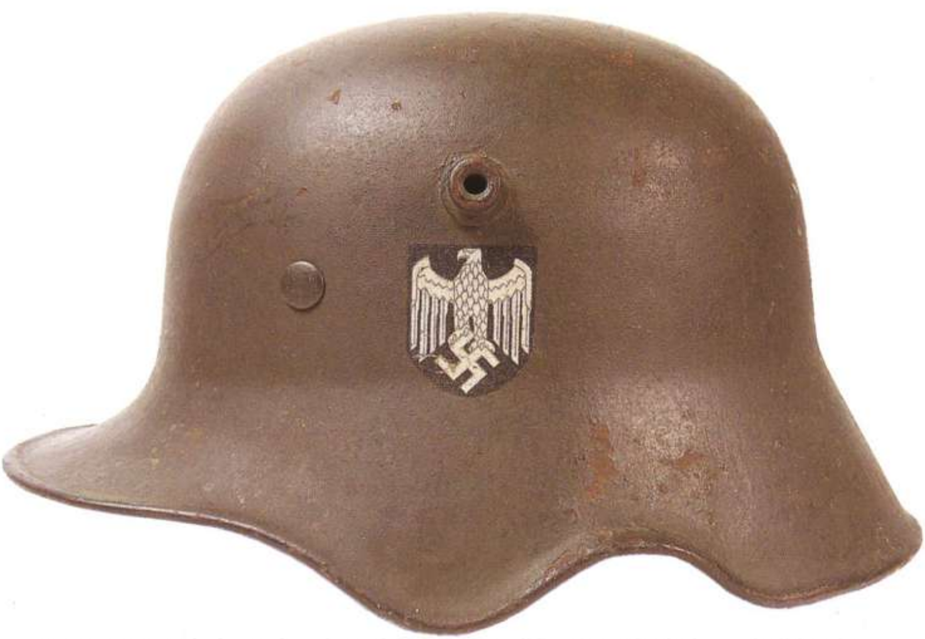
This M18 "cut-out" helmet has been only partially reworked. Although an M31 liner was installed and a single *Heer* decal applied, the helmet shell retains its original WWI era factory paint. (Courtesy K. Kithier)



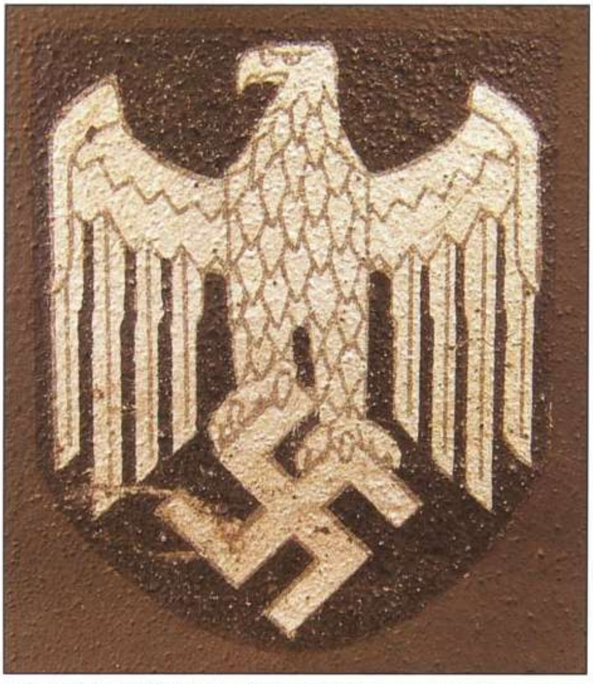
The decal is of the same type used by the ET firm on its factory issued product. Such decals are seen on reissued helmets across the board; that is, from 1935 until 1943.



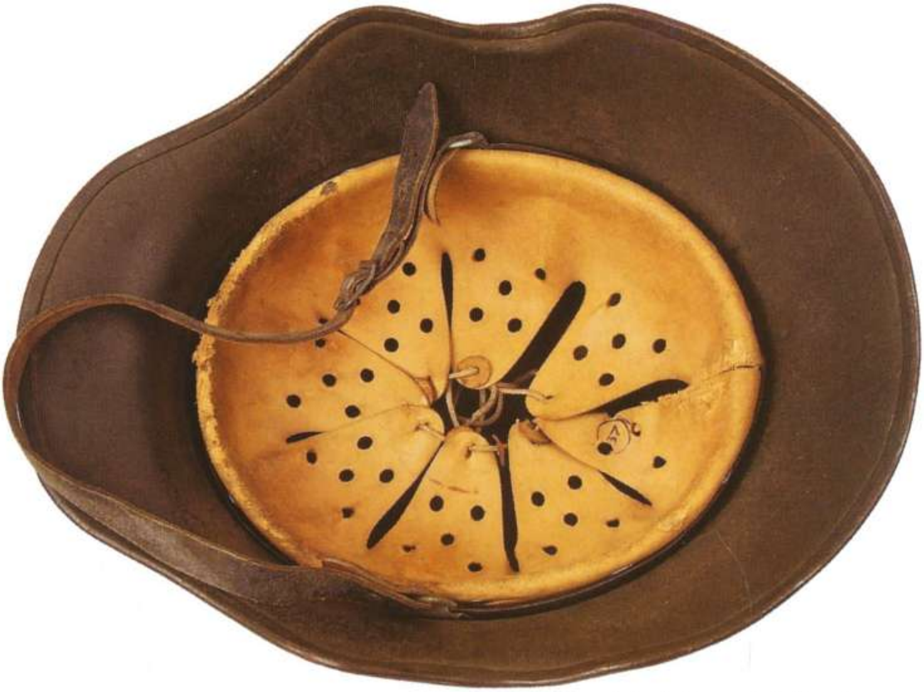
This interior shot shows the 1940 dated M31 liner system and the original WWI era factory applied paint.



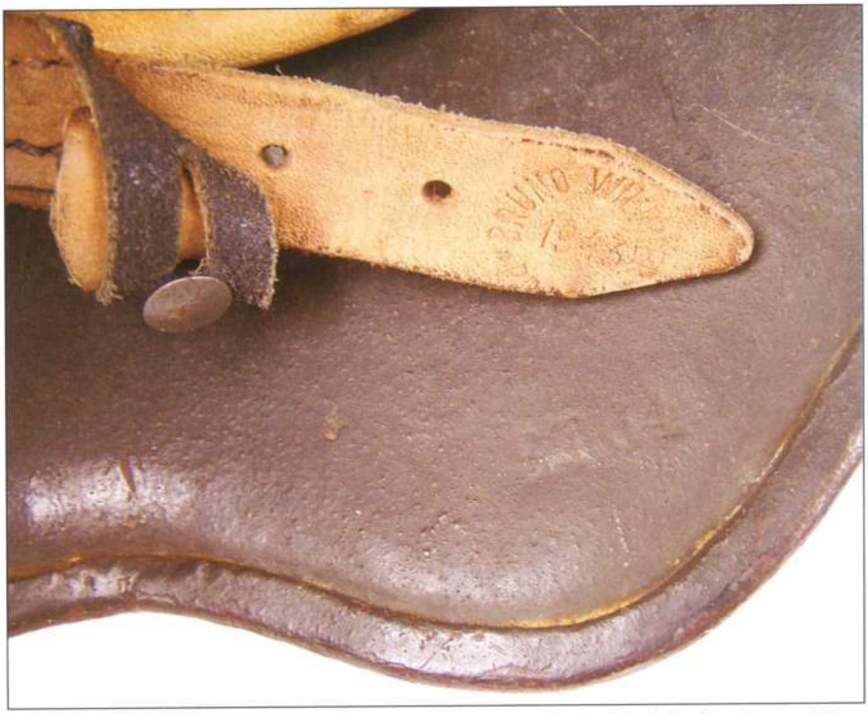
M18 "cut-out" helmet showing a later war modification. The helmet shell has been stripped of its WWI era paint and has been finished in 1940 spec rough texture *feldgrau.* A single *Heer* decal has been applied to the left side.



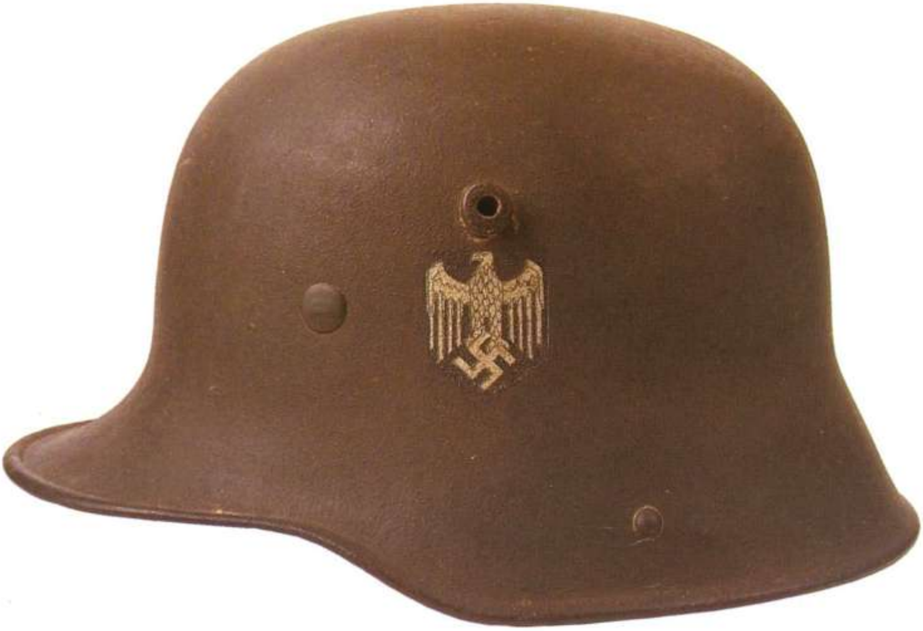
The decal found on this M18 "cut-out" is a pattern commonly seen on reissued helmets.



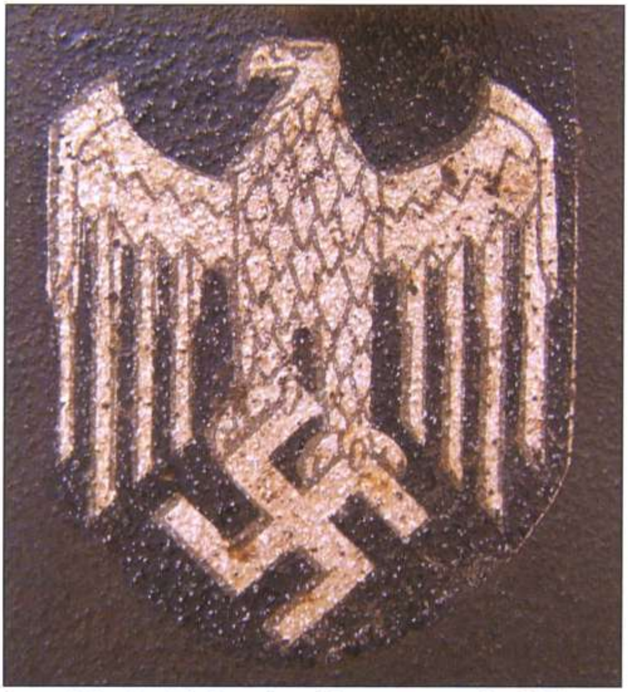
This photo shows the M31 liner system. The interior of the helmet shell has been painted with the same textured paint found on the exterior.



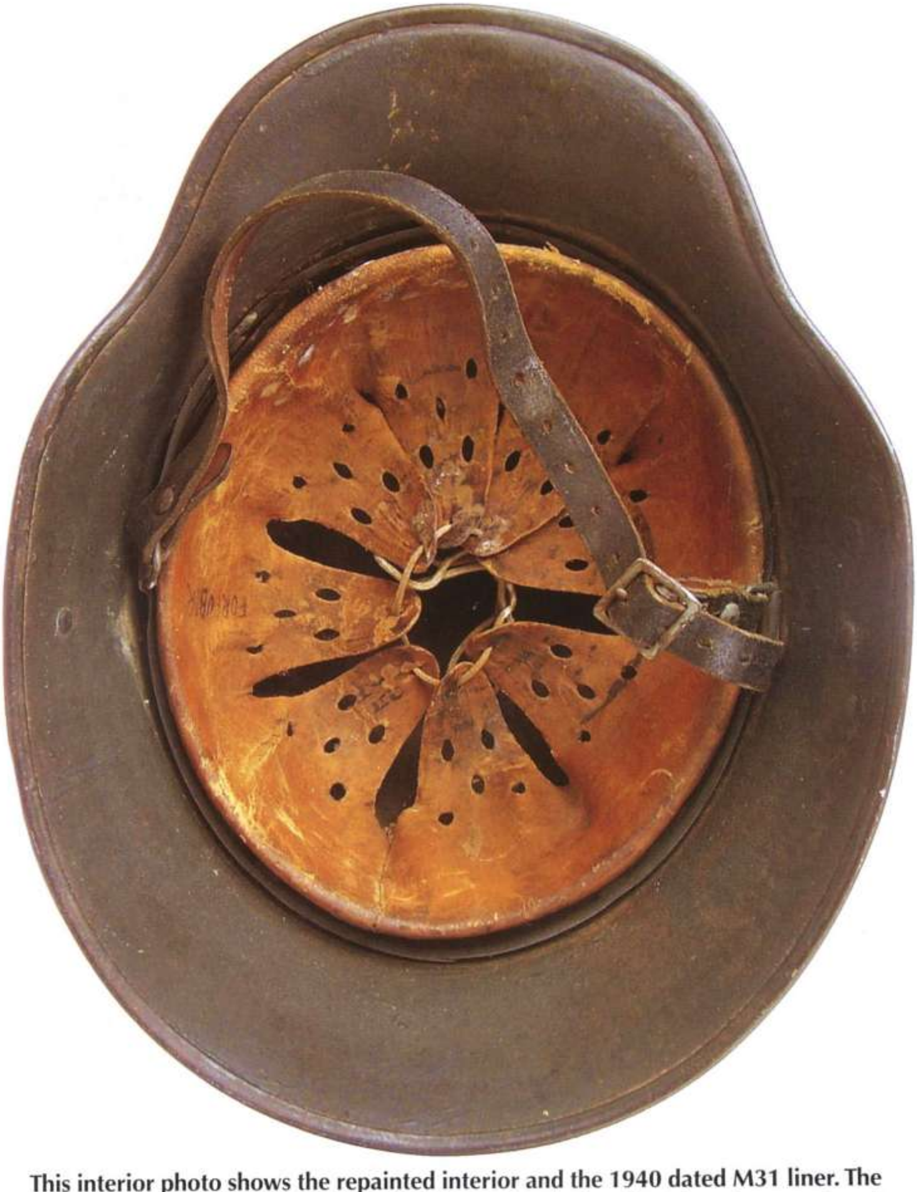
The original WW1 era ET64 maker mark found on the inside left rim along with a detail of the 1943 dated chinstrap.



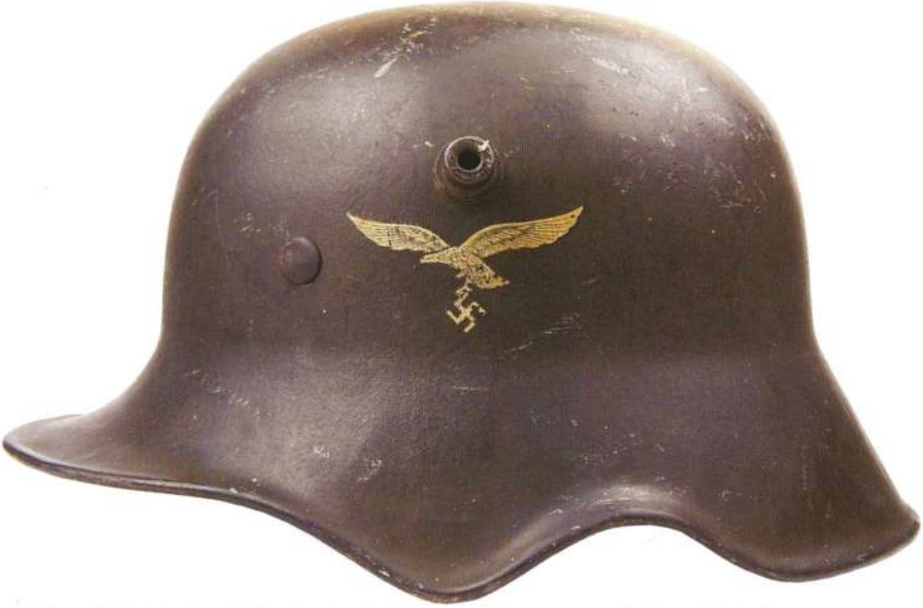
This M16 Helmet has been stripped of its WWI era painted finish and has been sprayed with a coat of 1940 spec textured *feldgrau* paint. A single *Heer* eagle decal has been applied to the left side.



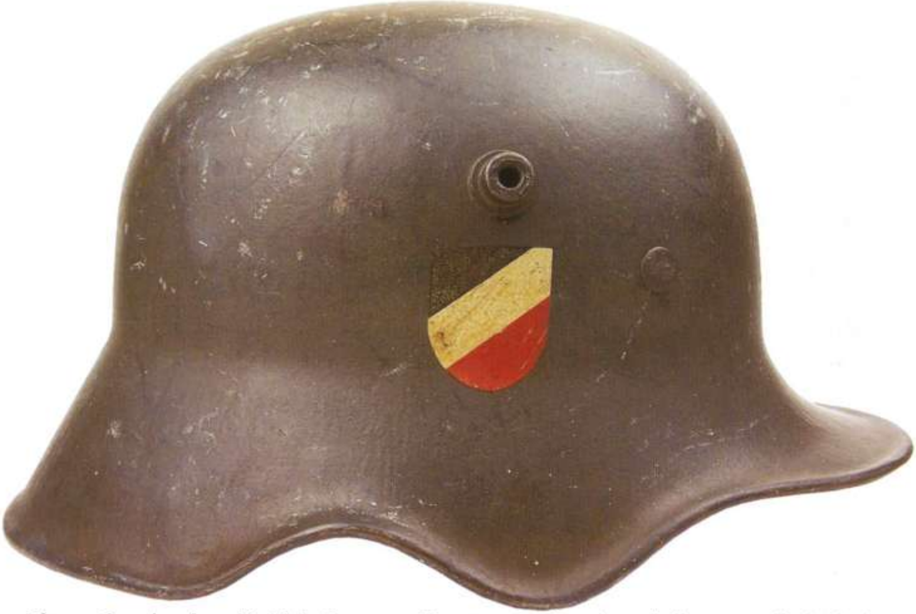
Another variant of the decal is found on this M16. Note the thick separation lines between the vertical feathers cause the decal to appear as a "thin wing" variant.



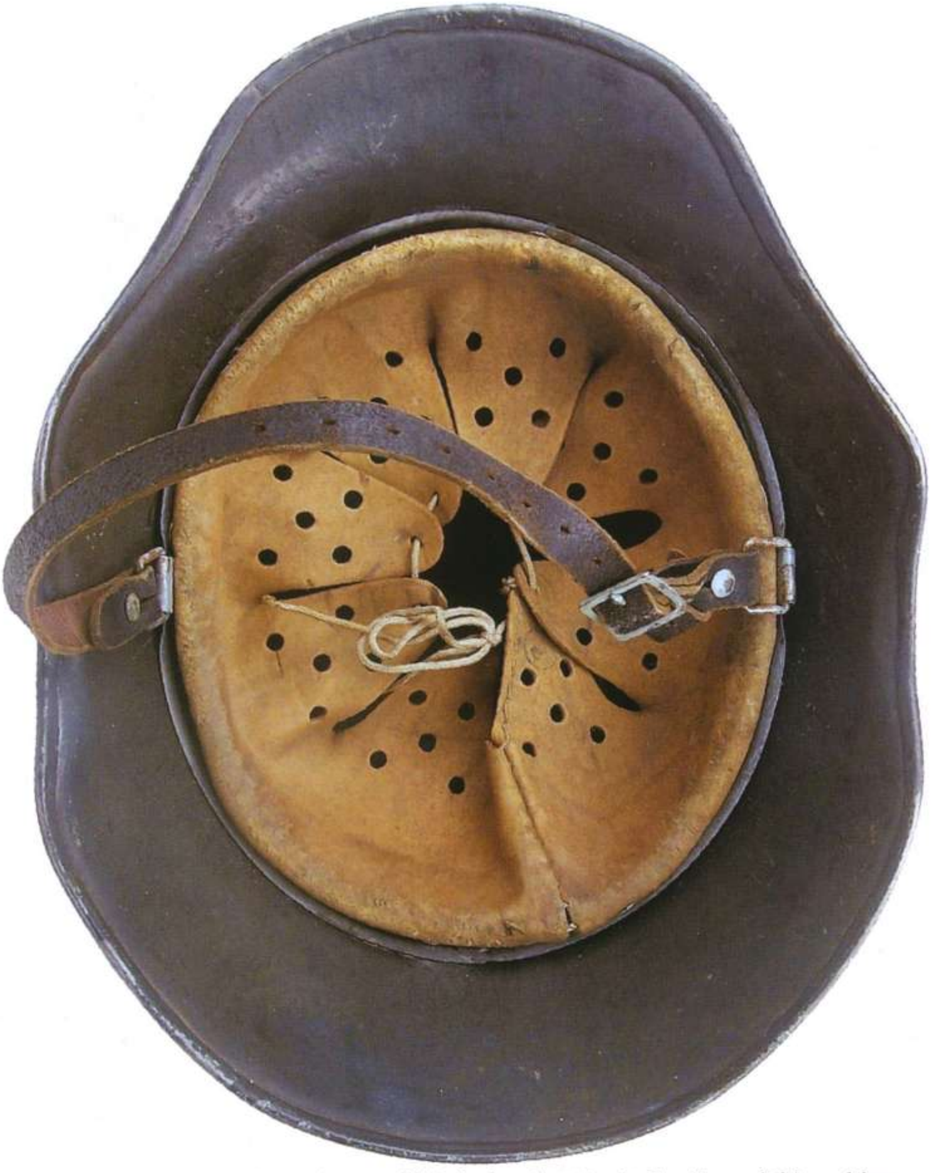
This interior photo shows the repainted interior and the 1940 dated M31 liner. The original M91 chinstrap lugs have been removed and plug-rivets have been replaced instead.



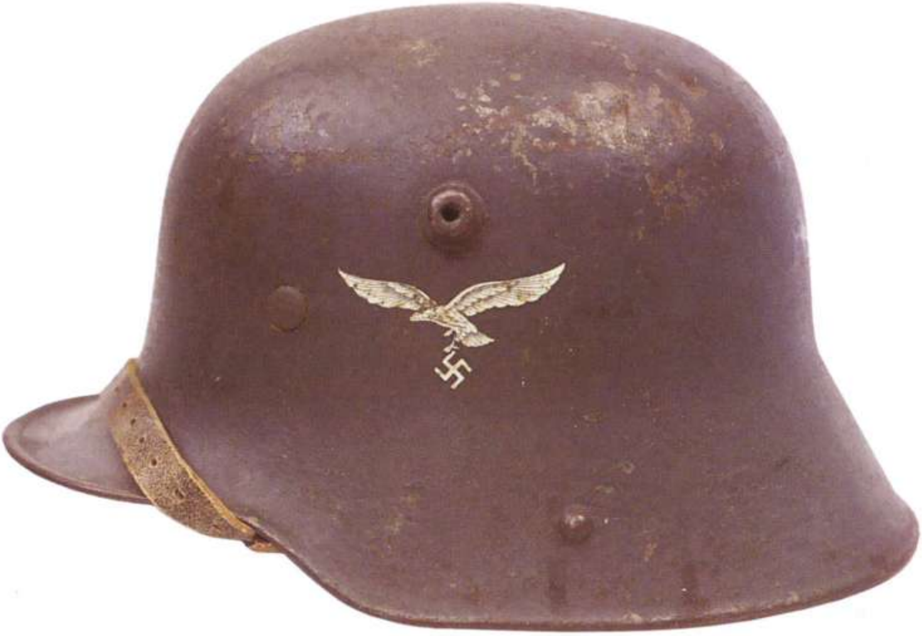
This M18 "cut-out" helmet shows an early war period modification. It was stripped and repainted in smooth texture paint. *Luftwaffe* decals have been applied to both sides. The eagle decal is the thick bordered variant.



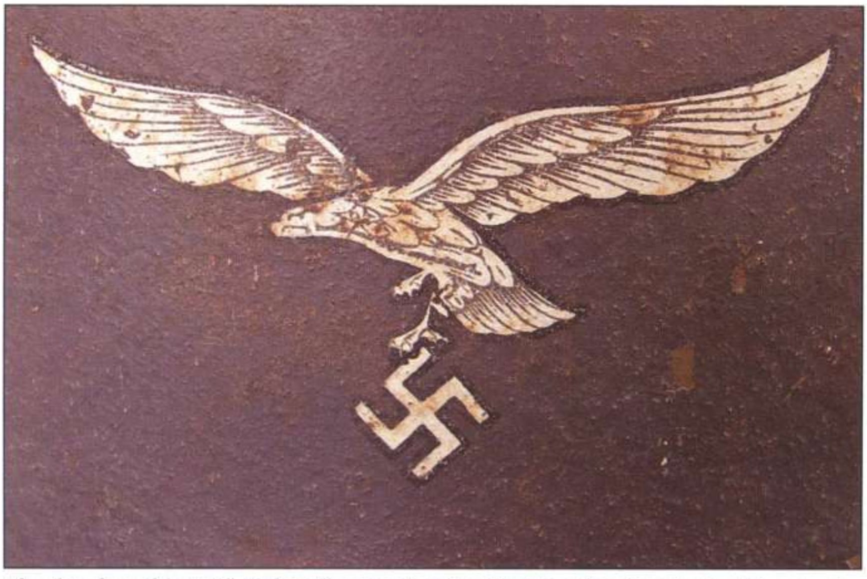
The national color shield is the round-bottom variant found almost exclusively in conjunction with the thick bordered *Luftwaffe* eagle decal shown above.



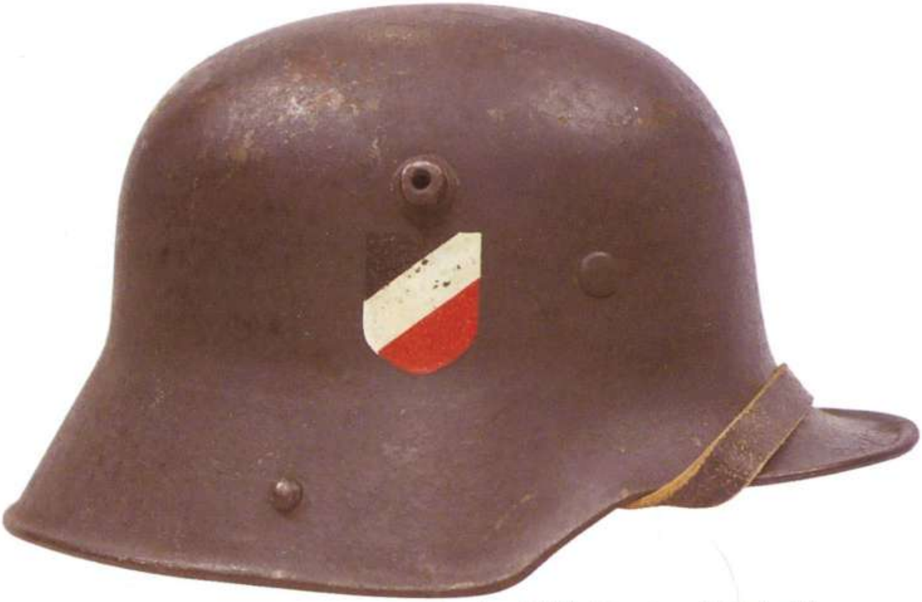
The liner is a steel-framed type which is dated 1940. At the time of this writing, this helmet is one of two known examples of an M18 "cut-out" *Luftwaffe* reissue. It should be noted that both examples utilize the same variant decals and both date to 1940 as determined by the liner dates.



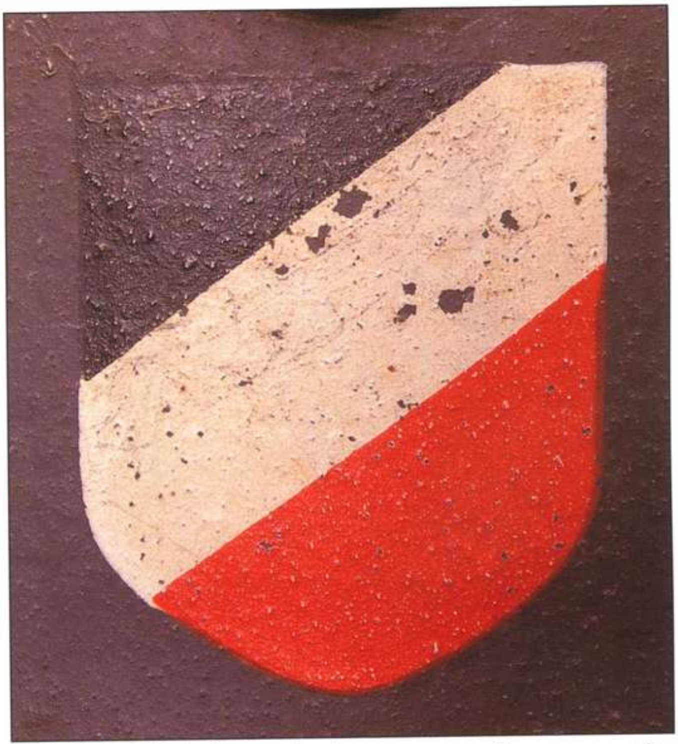
This Model 1916 helmet was repainted in rough texture blue-grey paint over an existing coat of *feldgrau.* Although it has been completed in double decal configuration, the rework appears to date to 1940. (Courtesy R. Bertschi)



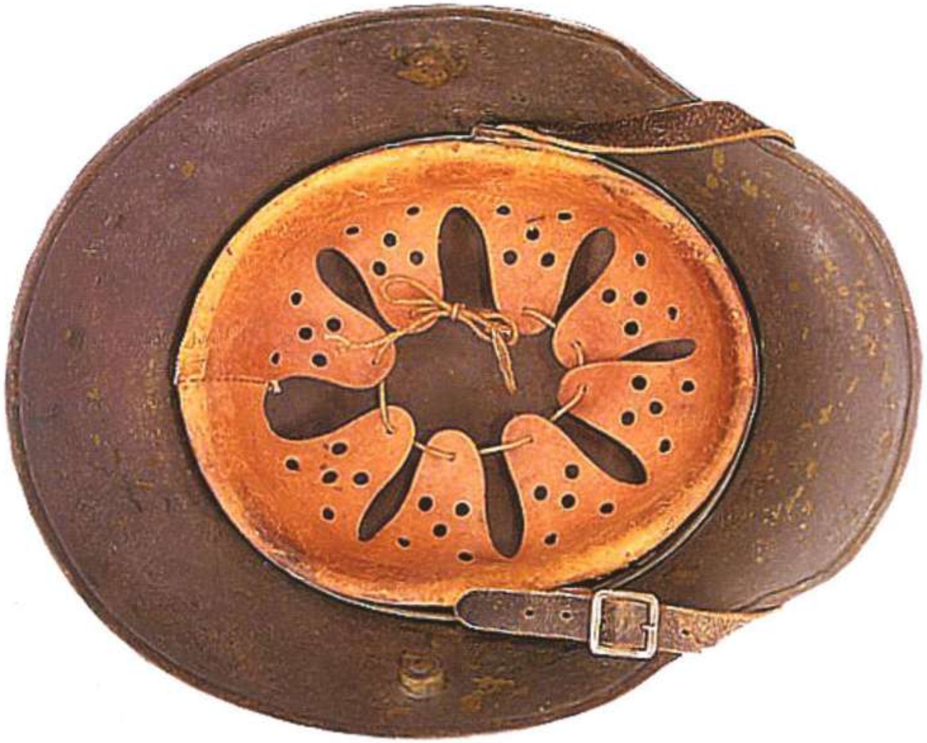
The decal on this M16 *Luftwaffe* rework is the thick bordered variant with grey detail lines. (Courtesy R. Bertschi)



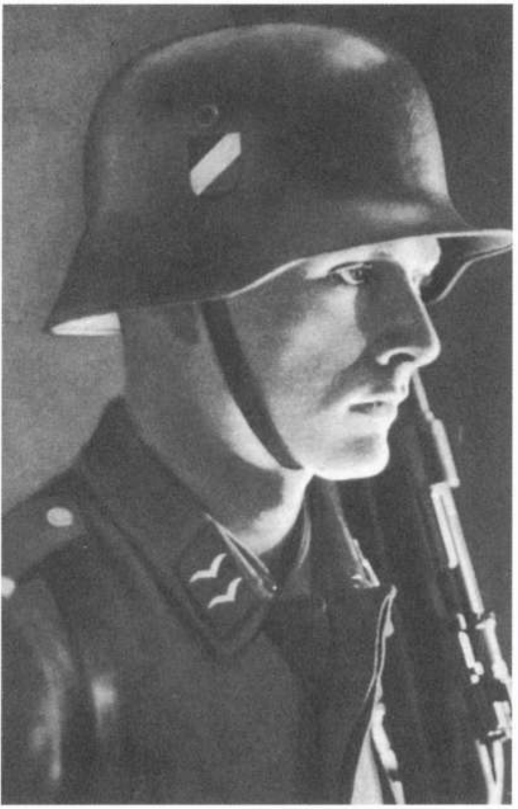
The right side shows the national color shield. (Courtesy R. Bertschi)



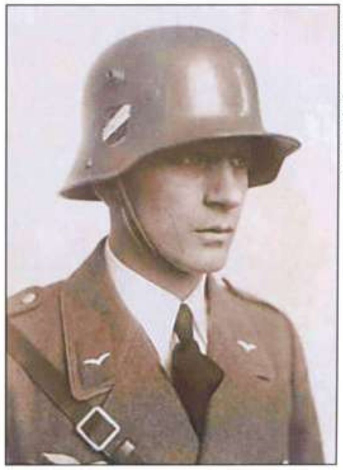
The national color shield is the standard pattern normally seen on reissued helmets. (Courtesy R. Bertschi)



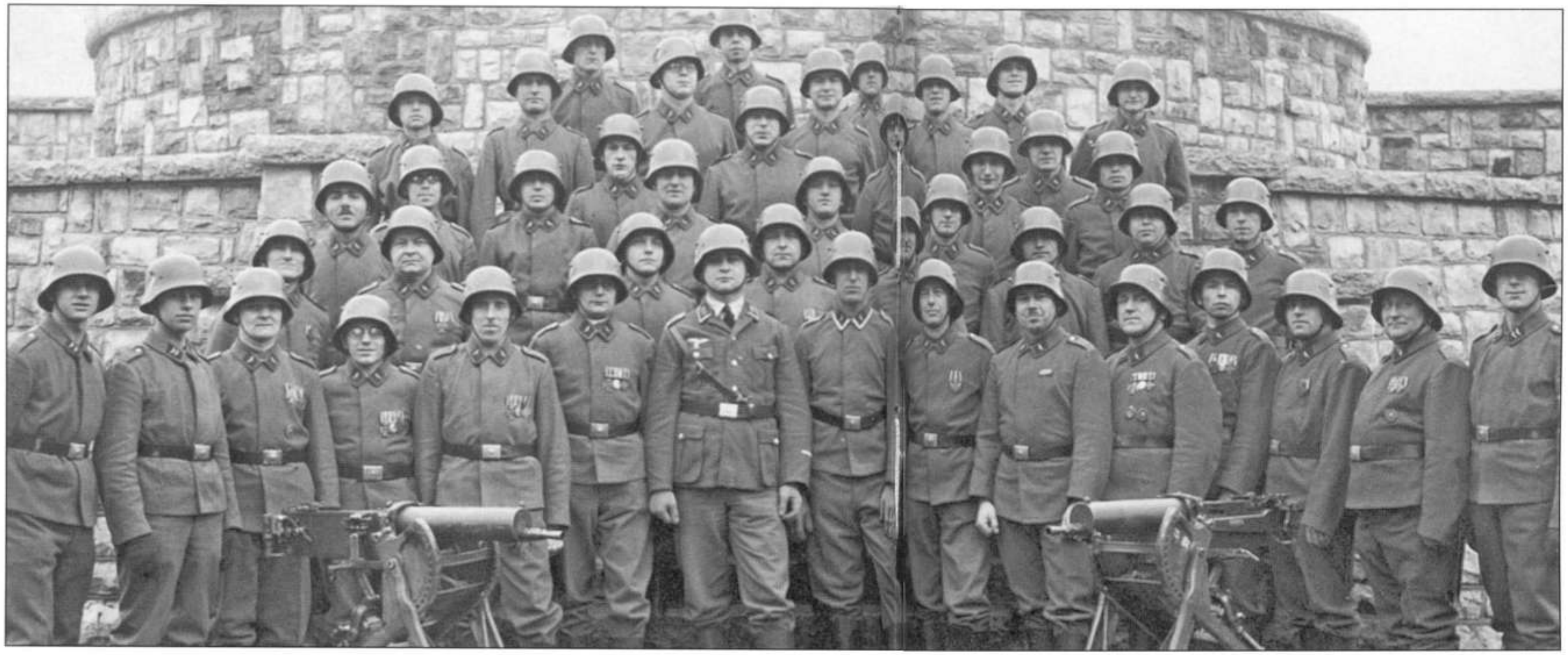
This interior photo shows the underlying *feldgrau* color in damaged areas of the blue-grey over-paint. (Courtesy R. Bertschi)



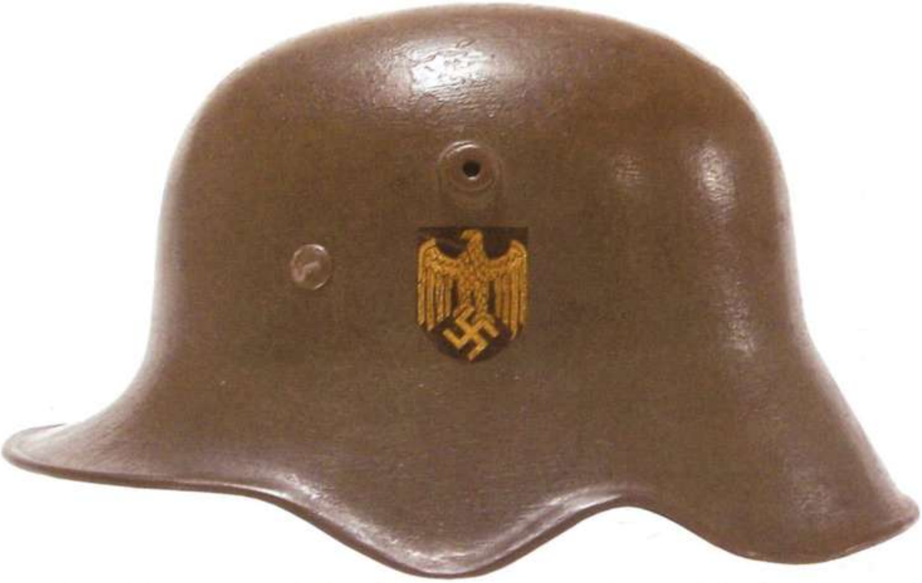
George A. Petersen



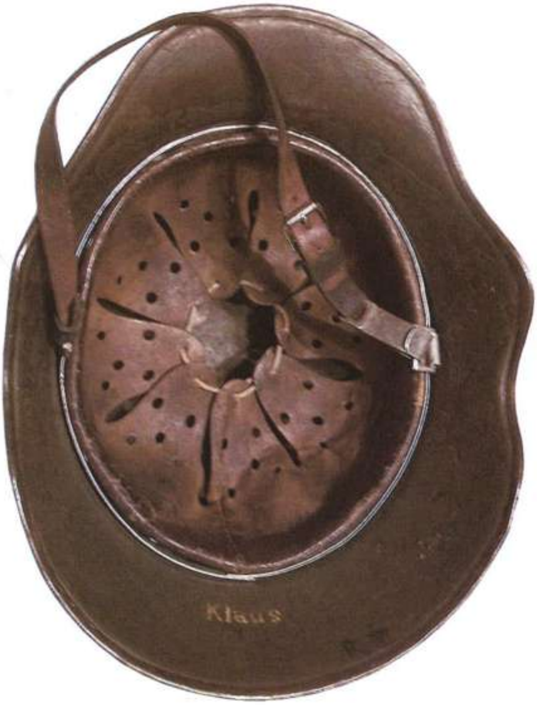
Otto Spronk Photo Collection



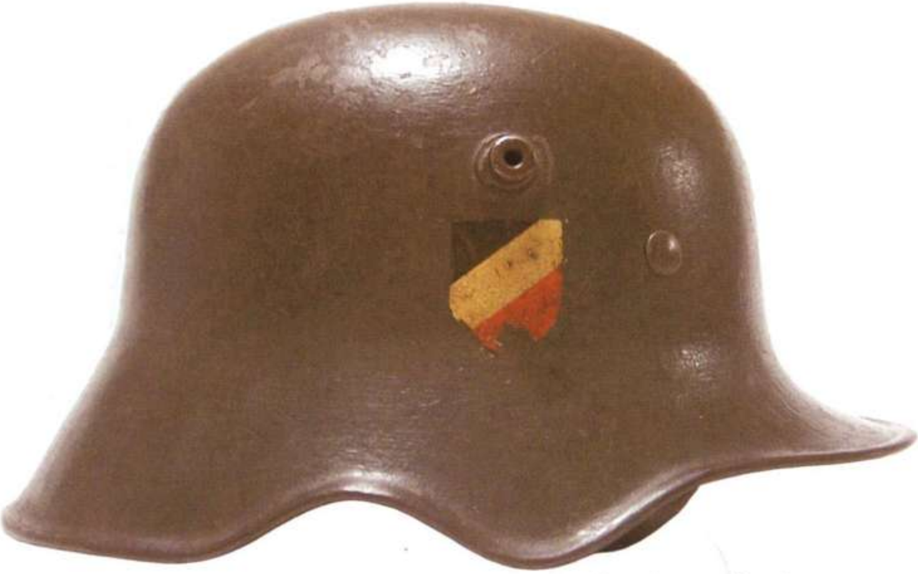
This group photo shows the transitional *Luftwaffe* helmet being worn with the first style *Luftwaffe* eagle decal.



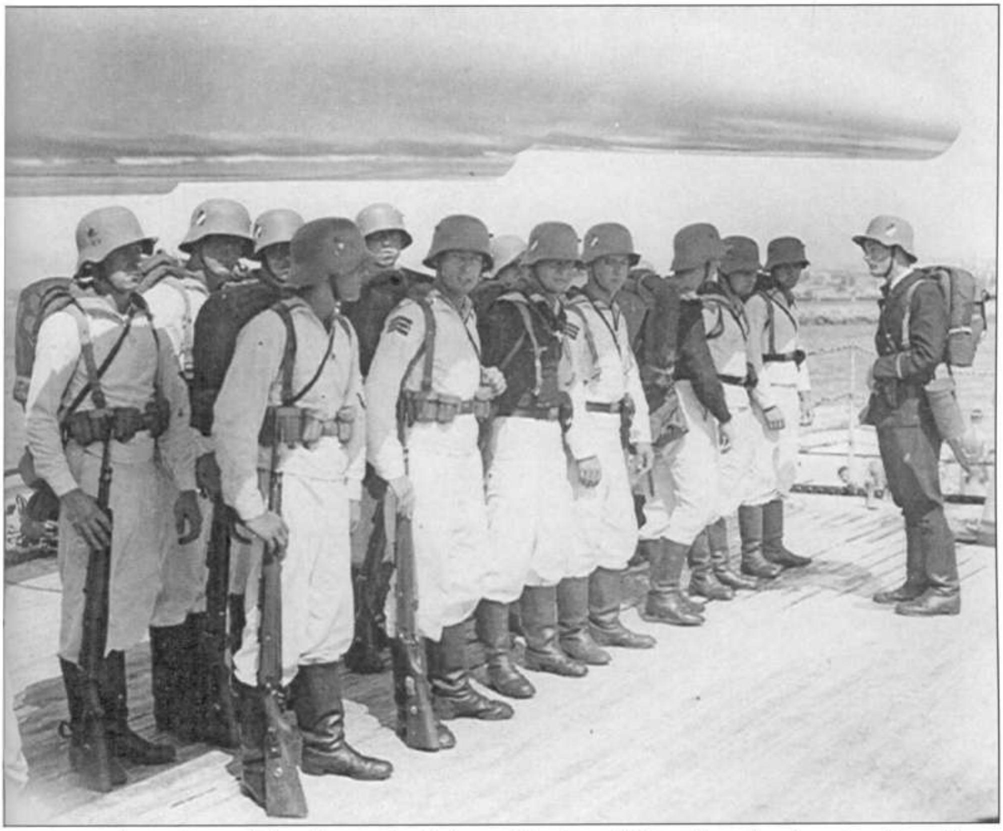
This Model 1918 cut-out helmet is a very early "transition" model. It has been repainted by brush with M35 spec *feldgrau* paint and adorned with a *Kriegsmarine* eagle decal and national color shield. (Private collection)



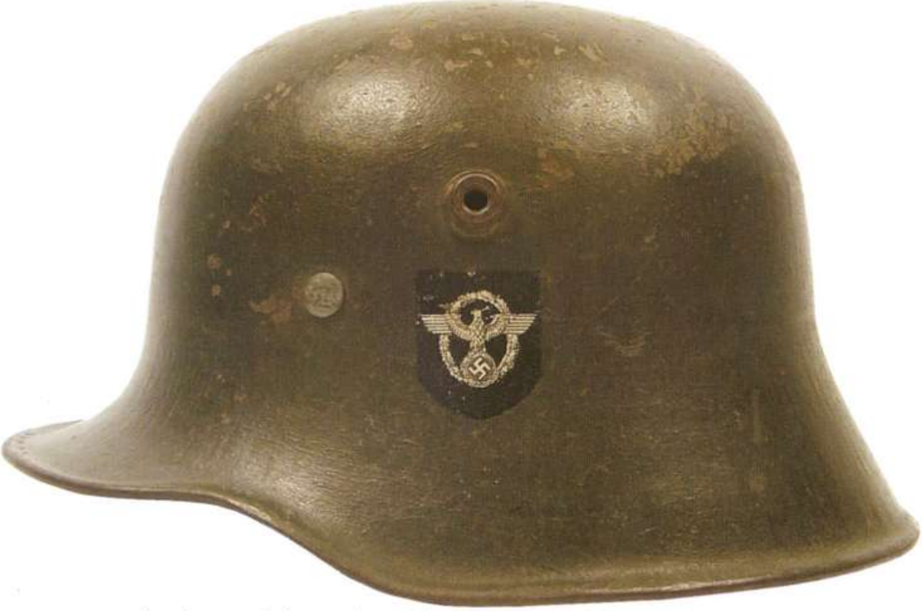
The liner of this *Kriegsmarine* transition helmet is a 1931 dated Schuberth-Werk product. The carbine hook chinstrap is dated 1933. (Private collection)



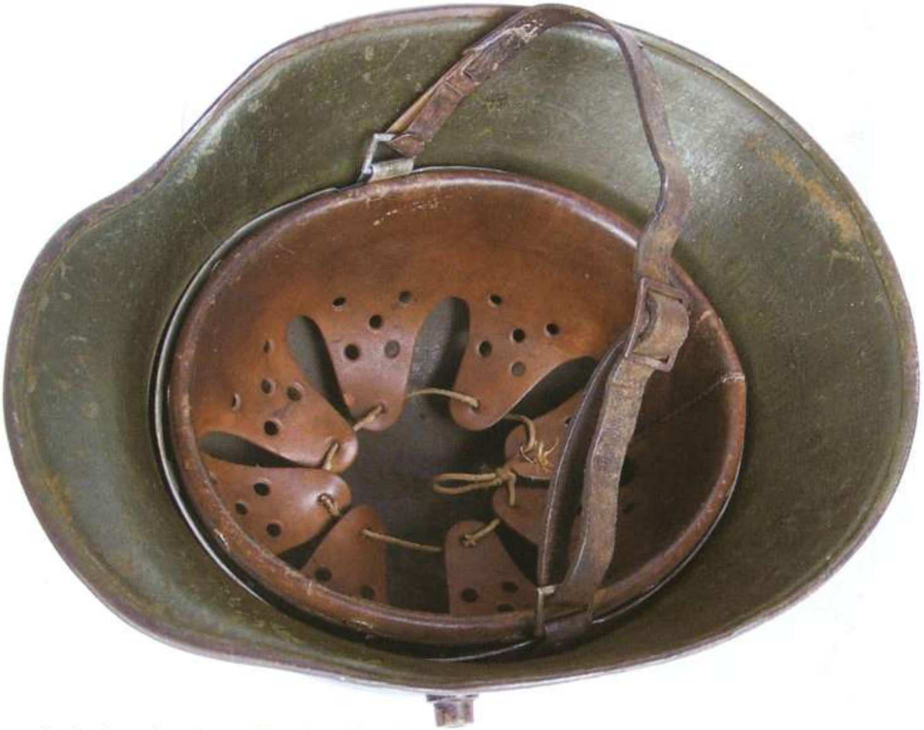
Right side view showing the national color shield. (Private collection)



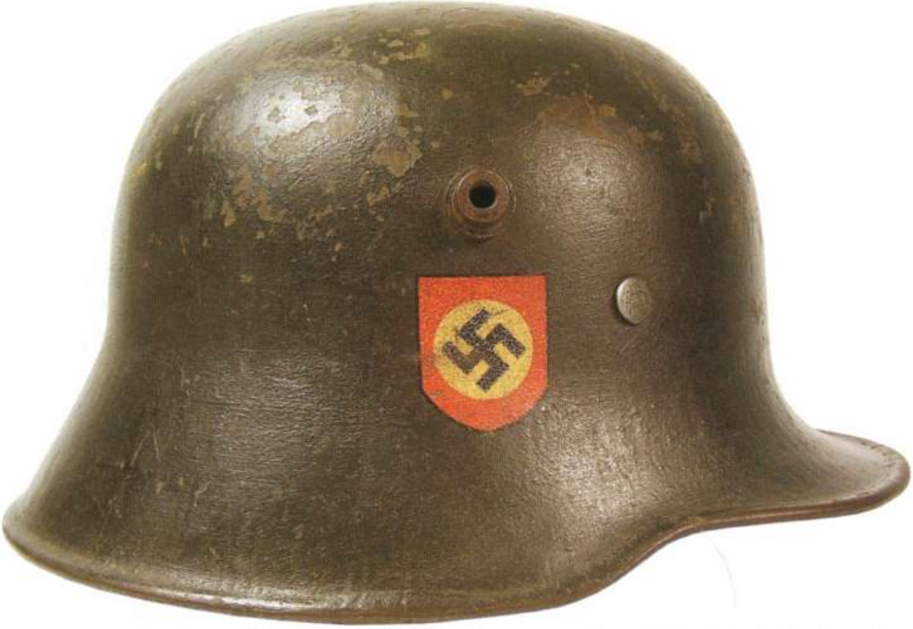
An early naval landing party. Note positioning of the national colors decal on officer at right. (Courtesy Richard Mundhenk)



An example of one of the earliest helmets reworked for use by Germany's *Feldgendarmes.* This M1918 shell has been over-painted in a dark green color with police decals applied. The split-pins are the early 1930s vintage, single-piece head variant which were used before the availability of the M31 split-pin.

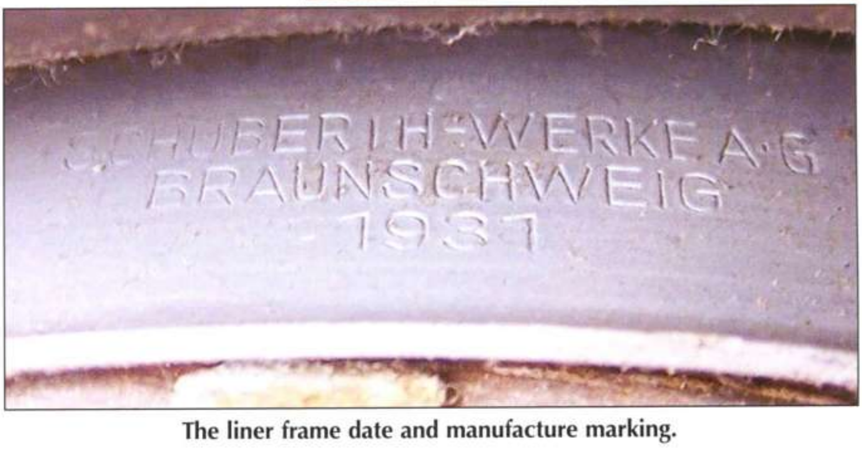


The helmet has been fitted with a 1931 dated Schuberth-Werk liner system and a carbine-hook chinstrap.

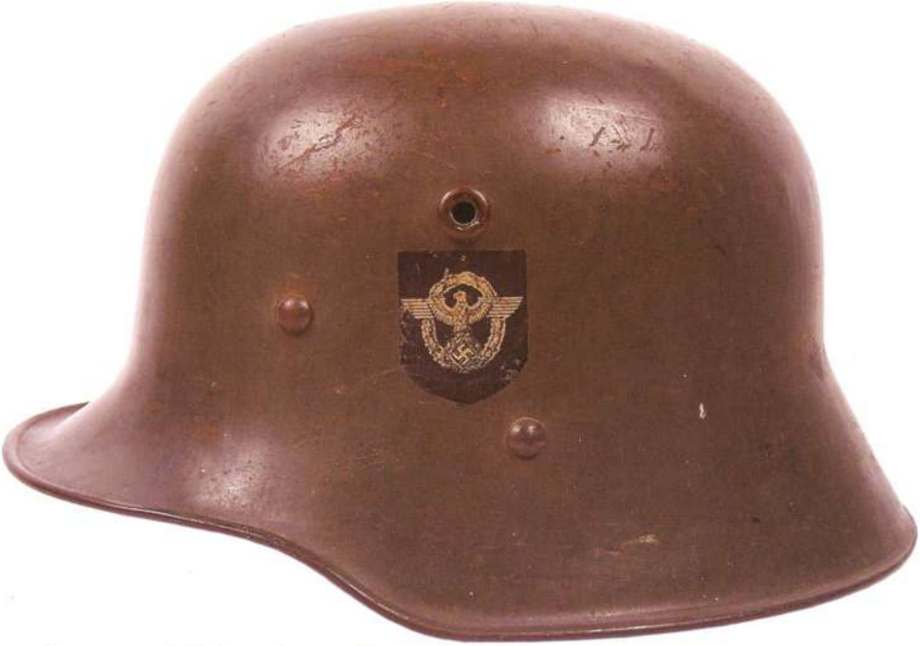


The right side shows the Party shield often encountered on civil police helmets and police reissues.

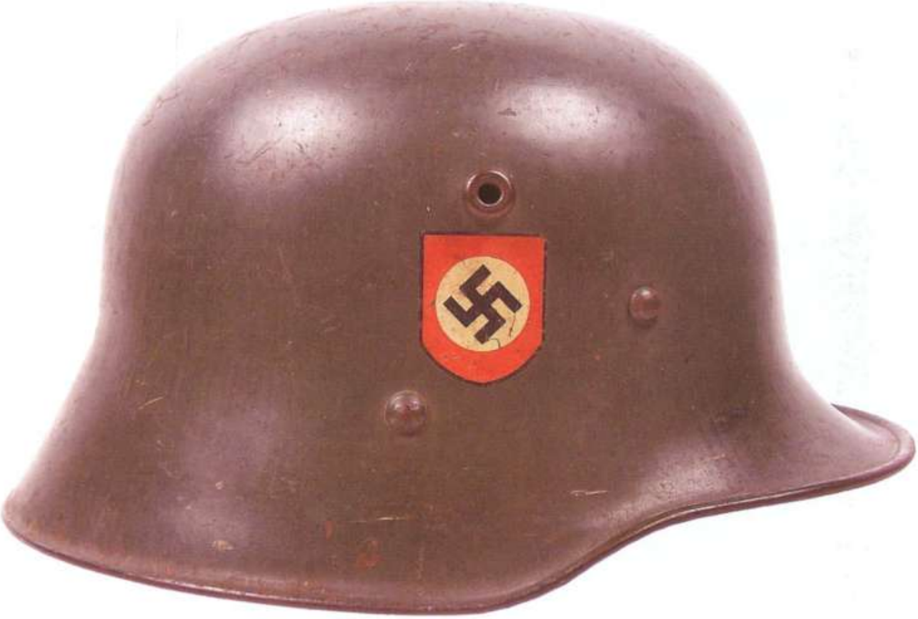
A close-up of the size marking stamped into the leather; dated 1931.



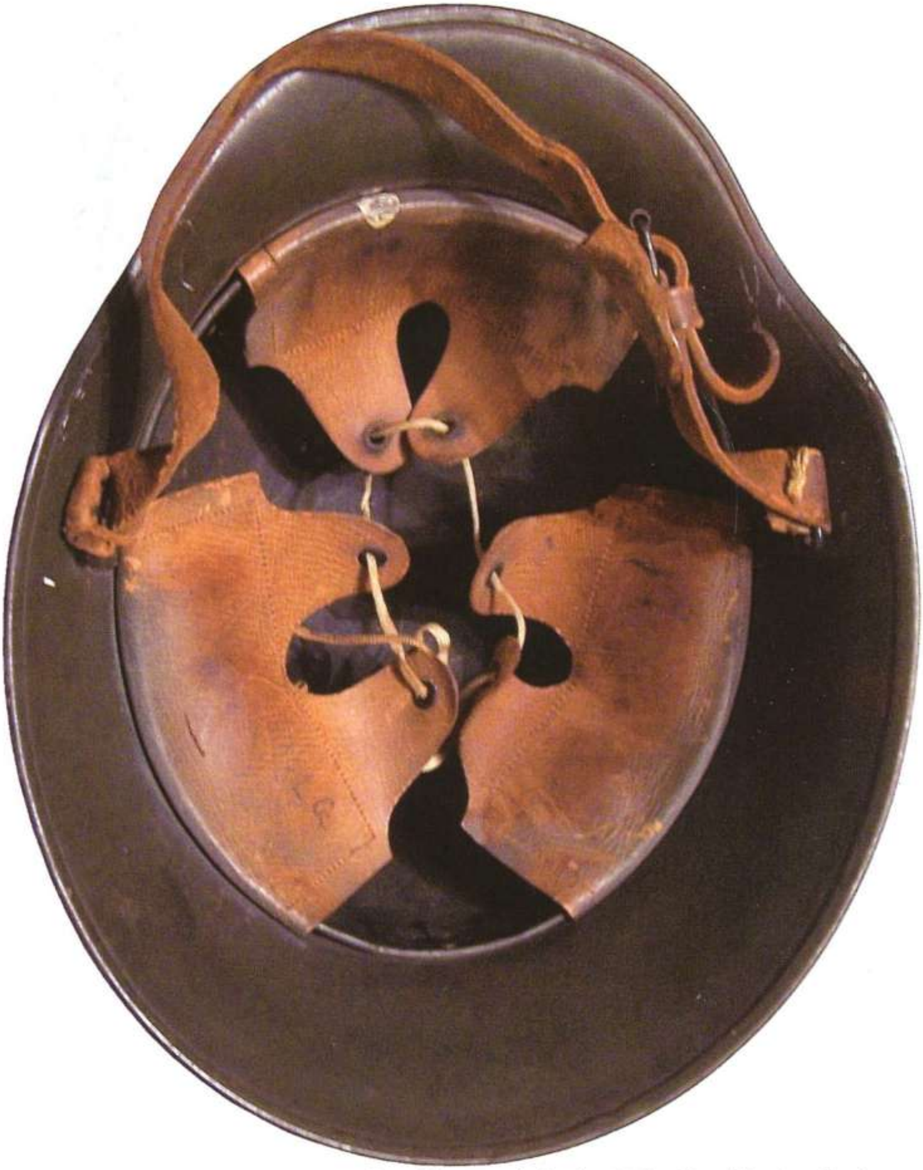
The liner frame date and manufacture marking.



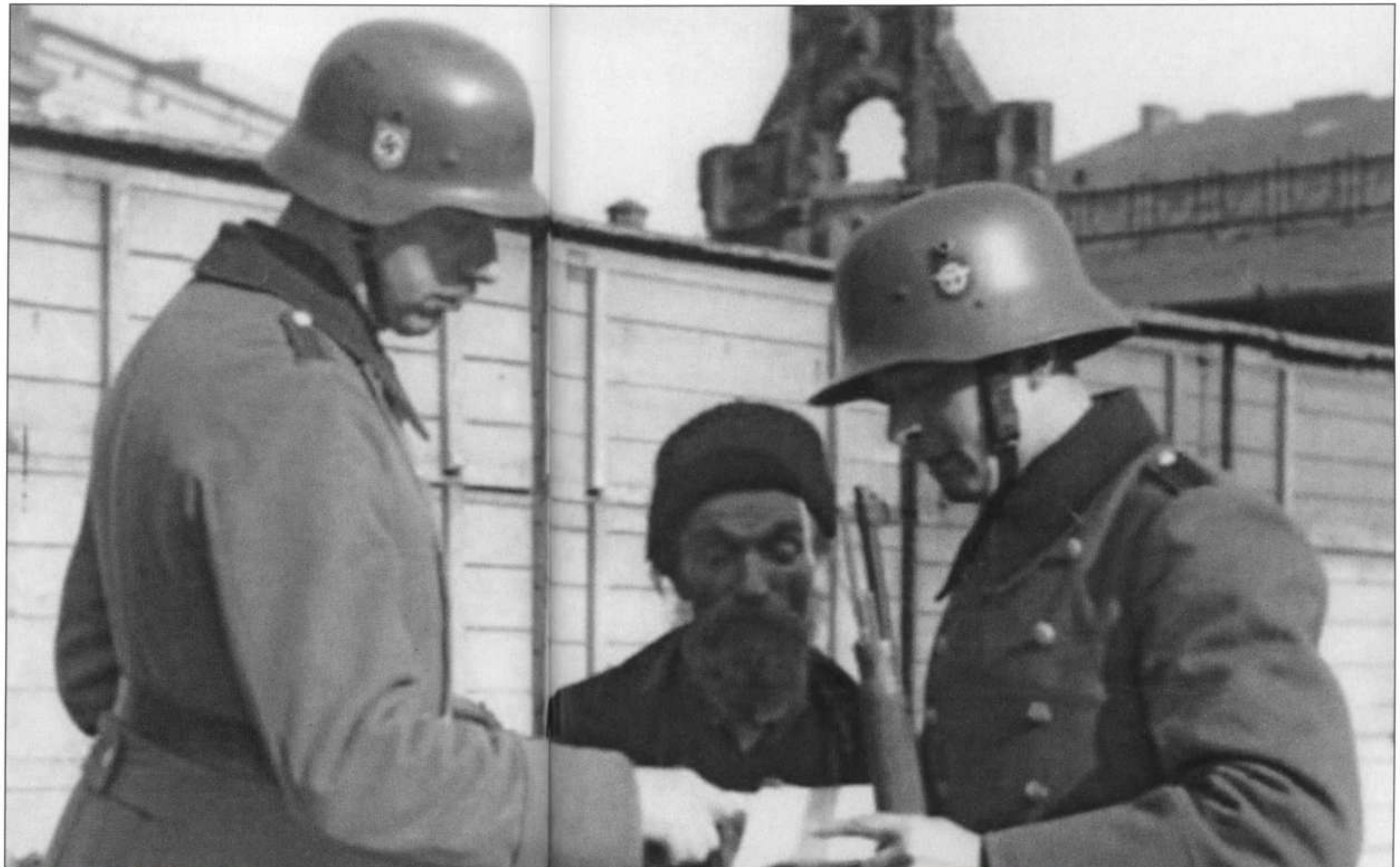
This MI6 style helmet is one of a number produced for the rural Austrian *Gendarmerie* in the 1930s. This example has been repainted and decaled for use by the Germans shortly after the 1938 *Anschluss.*



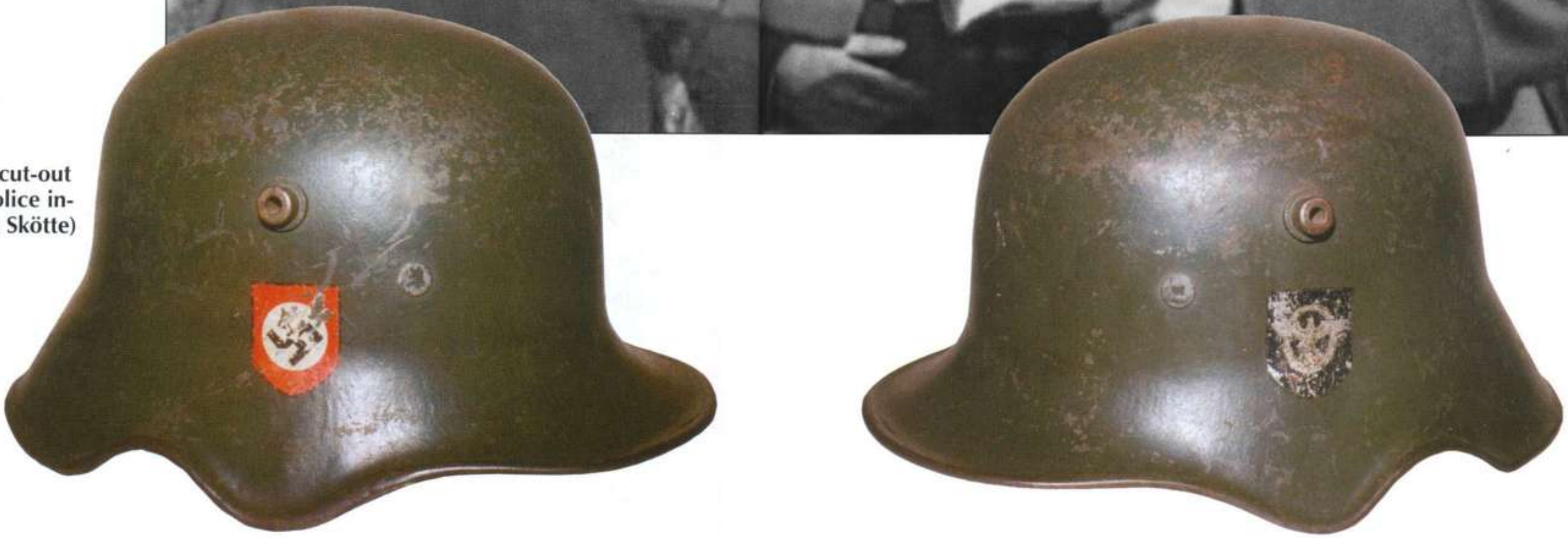
Right side view shows the Party shield.



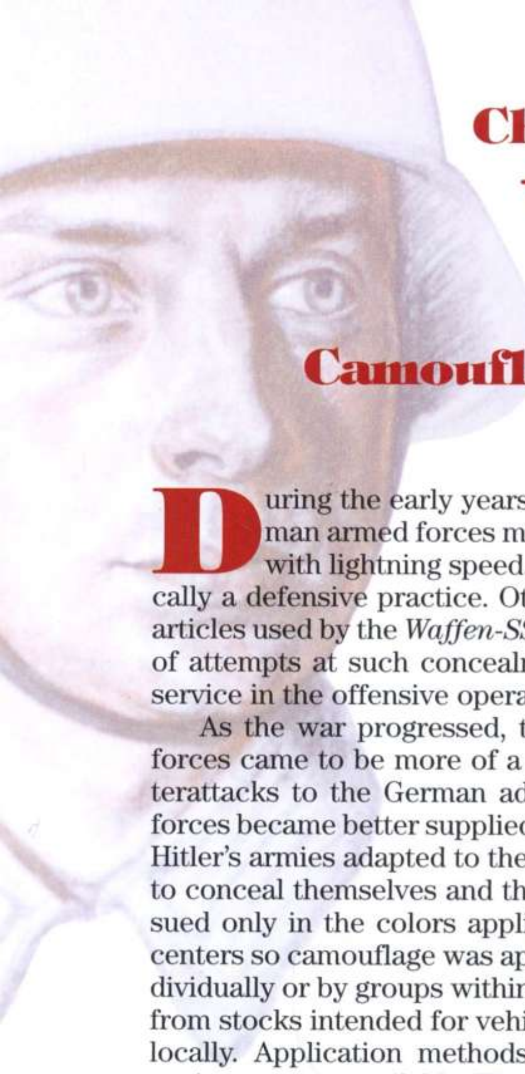
The liner is a three-pad style produced by Austria in the 1930s. The chinstrap is also Austrian made.



Two Gendarmes checking the papers of a local civilian in the east. The soldier at right wears a reissued Austrian M16 style helmet. (Bundesarchive)



Reissued M18 cut-out helmet with police insignia. (Anders Skötte)



Chapter

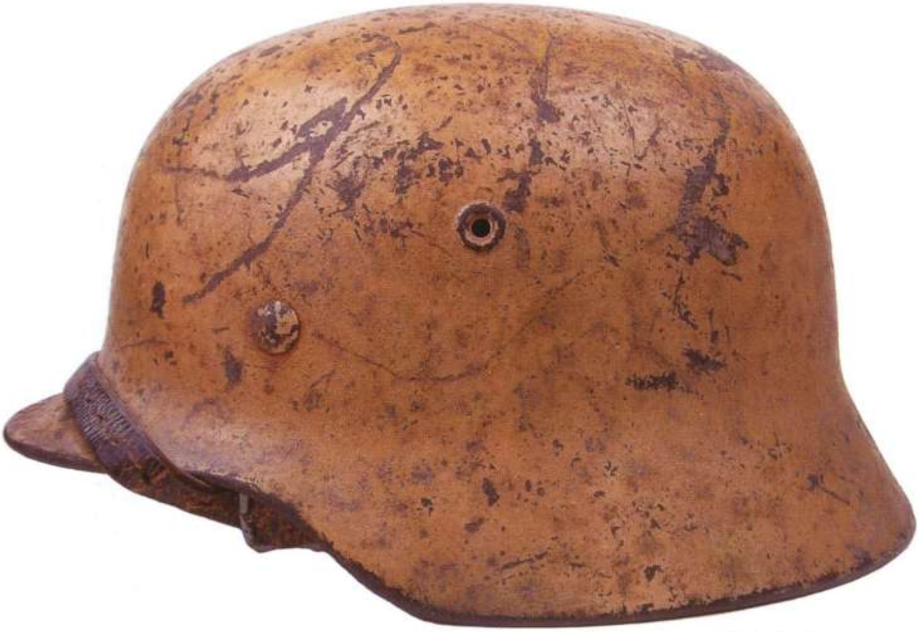
V

Camouflage Helmets

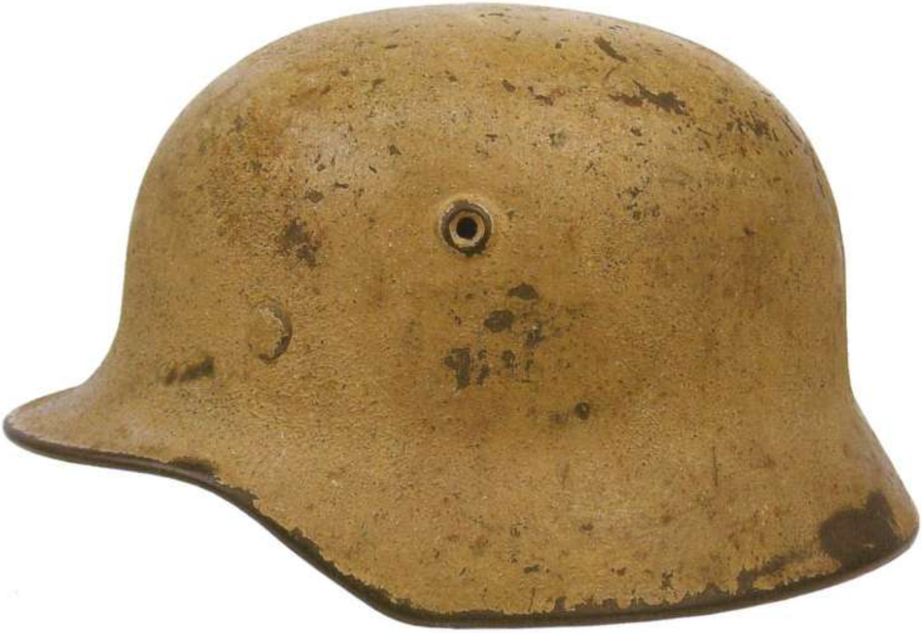
During the early years of the war, the successes of the German armed forces mounted and operations were executed with lightning speed. The utilization of camouflage is basically a defensive practice. Other than certain camouflage uniform articles used by the *Waffen-SS*, there is little photographic evidence of attempts at such concealment made by the other branches of service in the offensive operations of 1939-40.

As the war progressed, the operations of the German armed forces came to be more of a defensive nature. On all fronts counterattacks to the German advances became stronger and enemy forces became better supplied with aircraft and artillery. Soldiers of Hitler's armies adapted to the situation by making further attempts to conceal themselves and their equipment. Steel helmets were issued only in the colors applied at the factories or refurbishment centers so camouflage was applied to helmets in the field, either individually or by groups within units. Paints used were either drawn from stocks intended for vehicles and equipment or were obtained locally. Application methods varied according to what painting equipment was available. The variation in paint colors, patterns and application methods has produced a wide spectrum of examples for the collector of camouflage helmets.

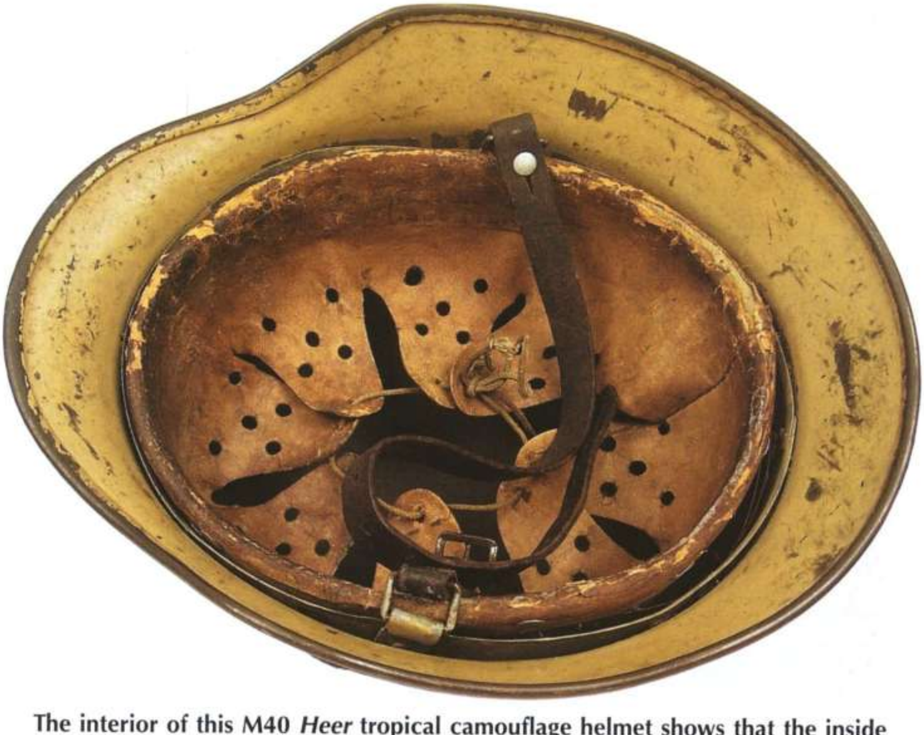
Among the first painted camouflage helmets seen were those in use in North Africa, ca.1941-1942. In the beginning, paint colors were most likely improvised by mixtures of available colors. Later, tan-colored vehicle paint was used for application to the soldiers' steel helmets in attempts to blend in with the surroundings. The sandy landscapes of Tunisia and Libya have been described as having a pinkish hue. Observation of DAK camouflaged helmets often shows a slight pink shade in the tan colored over-paint.



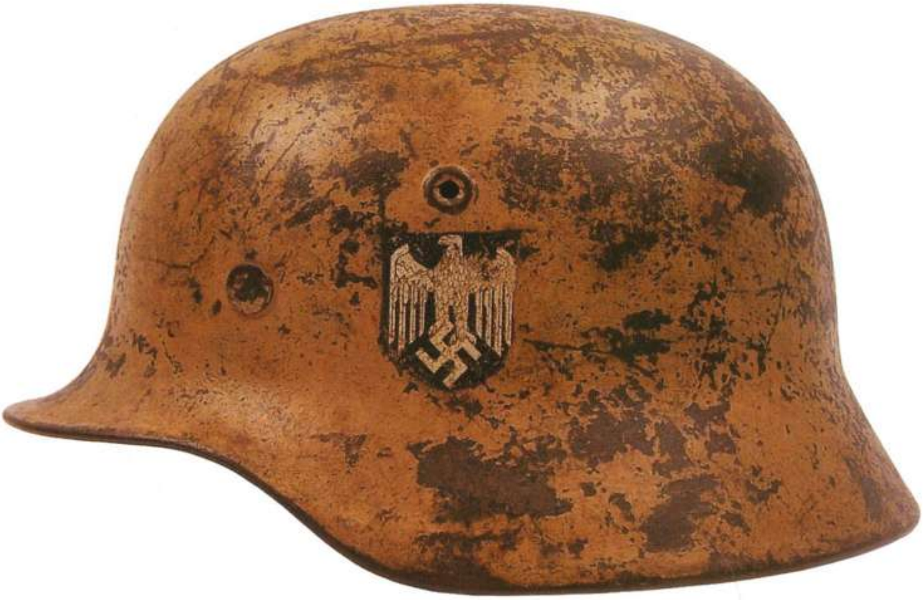
This M40 *Luftwaffe* helmet is a typical example of what may correctly be termed as a DAK camouflage helmet. The brush-applied paint has a slight pink hue which can be noticed when compared to other following examples in which the tan colors have a more yellowish tone. The *Luftwaffe* decal has been completely painted over but is still slightly visible in relief.



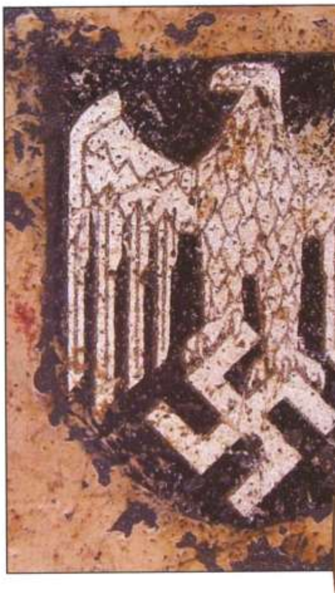
This M40 single decal *Heer* helmet has been over-painted by brush with a tan color in which sand has been mixed to give added texture. The underlying decal shows through on the left side. (K. Kithier)



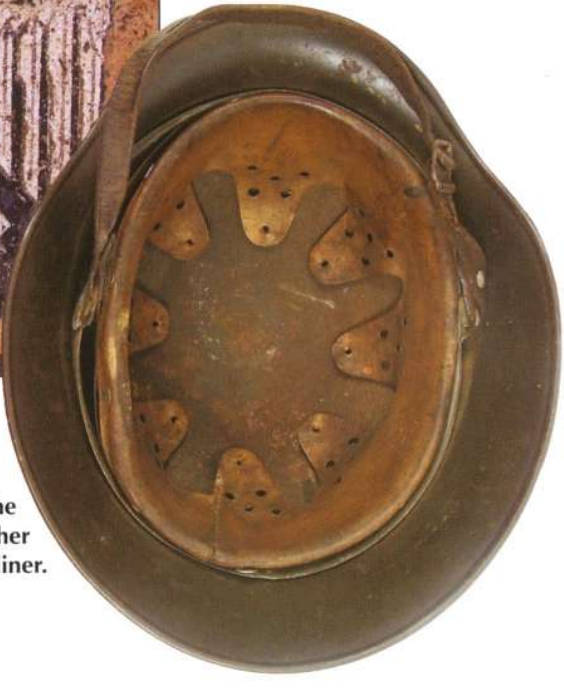
The interior of this M40 *Heer* tropical camouflage helmet shows that the inside rim has also been painted.



This M40 single decal *Heer* helmet has been spray-painted in tropical paint.

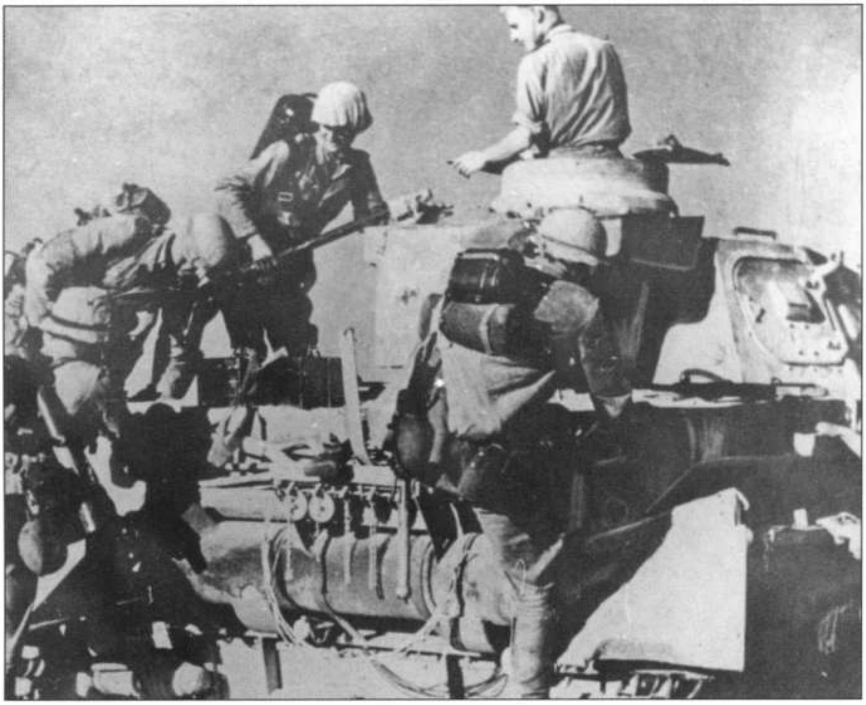


The insignia of this M40 *Heer* helmet shows that the decal has been masked off with a template when the camouflage paint was applied.



This interior view shows the well worn and darkened leather of the liner.

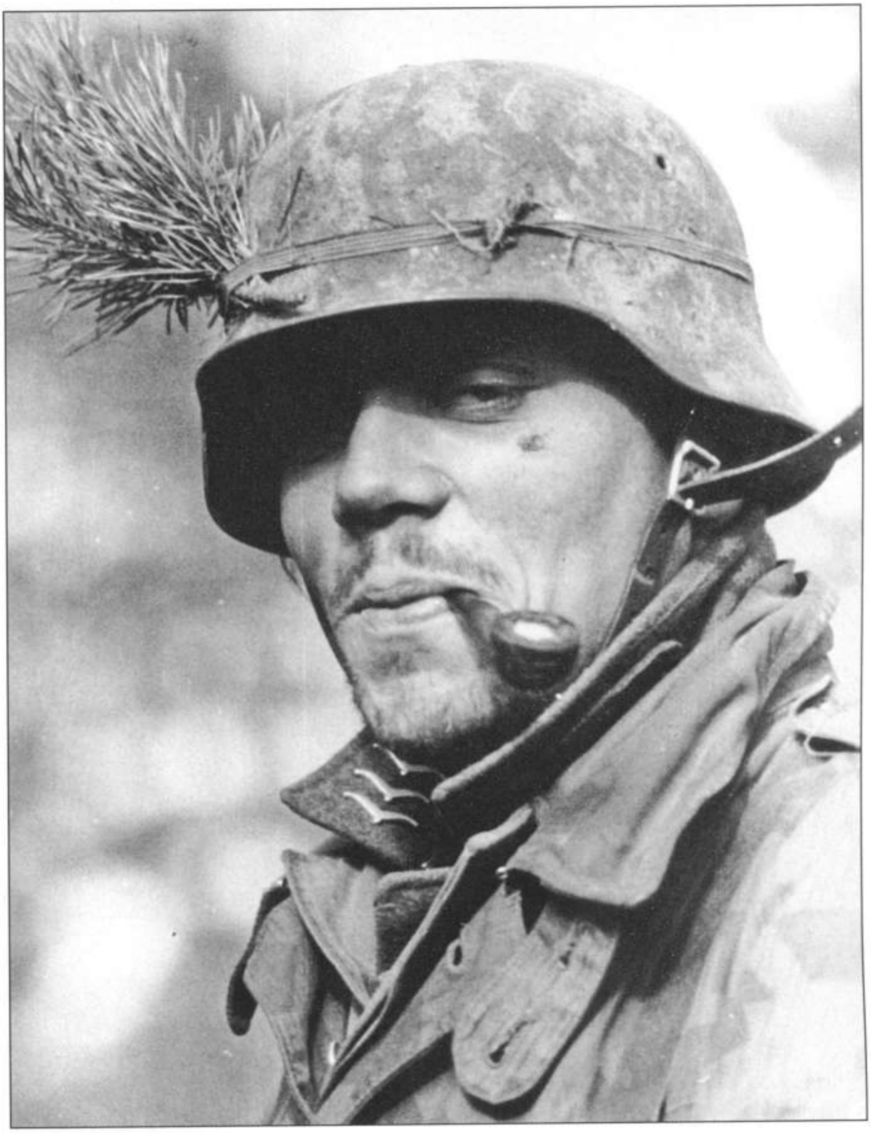
The previous M40 tropical helmet is a rare example of one that is confirmed as having been used by a member of the *Afrikakorps*. Shown are the hand-written markings applied to the liner by the US army soldier who retained this helmet as a souvenir; "Bizerte, N. Africa, June, 1943". The coastal city of Bizerte, Tunisia was a major allied supply port and assembly area for the more than 300,000 German and Italian prisoners who would eventually be transported to POW camps in England and the United States.

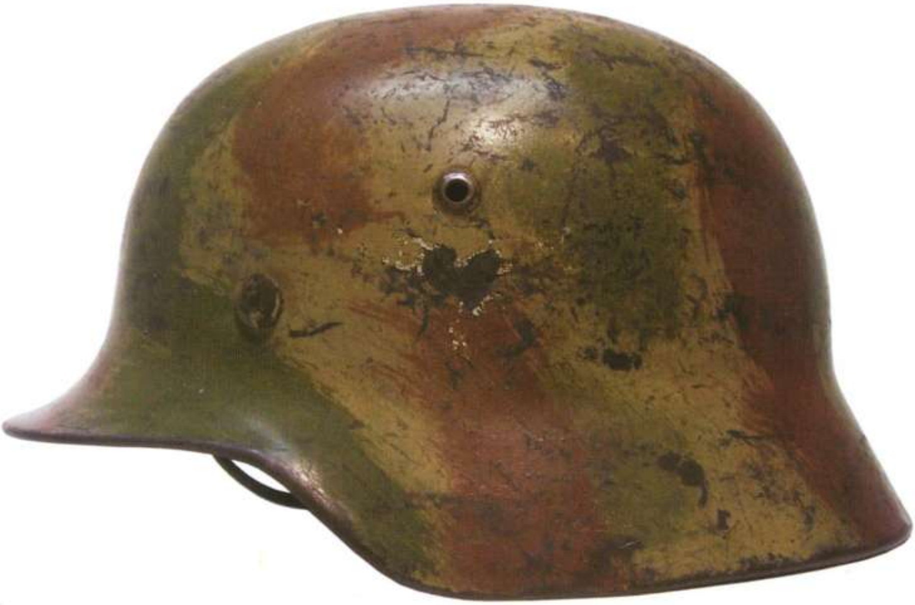


George A. Petersen

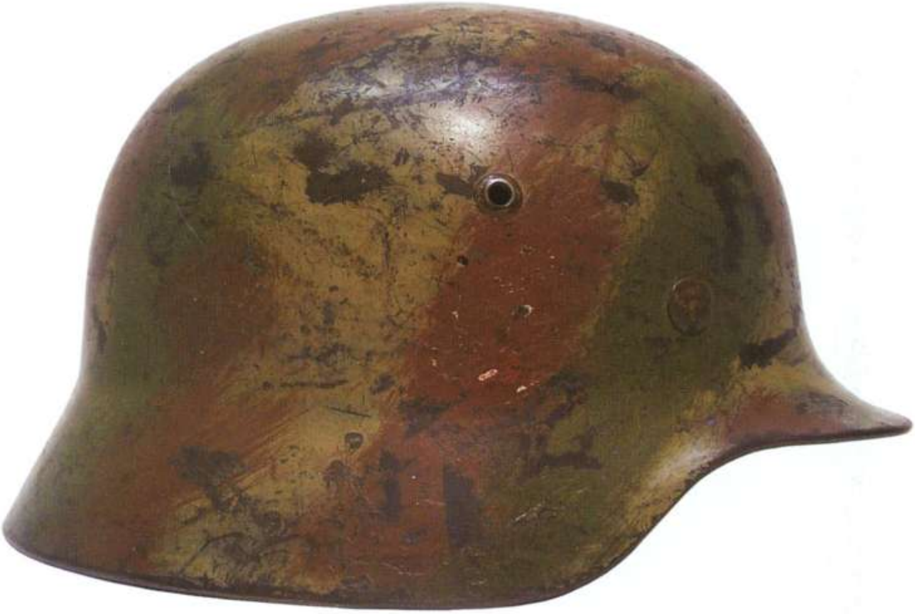
These *Afrikakorps* engineers are wearing makeshift cloth covers on their helmets (generally available desert colored material or burlap bags).

Camouflage schemes using different colors became more prevalent as the war found it's way to Sicily and Italy in late 1943. By the time of the Anglo-American landings in Normandy, Allied air forces dominated the skies and all movements by the German ground forces were hampered by attacks from enemy fighter-bombers and artillery which was guided by both aerial and ground observation. Concealment by camouflage had become a common practice throughout all German ground units by the summer of 1944. Special camouflage clothing had been developed and was widely issued by each of the serving branches. Camouflage was applied to helmets generally in multiple colors; in a variety of patterns and using various application methods.

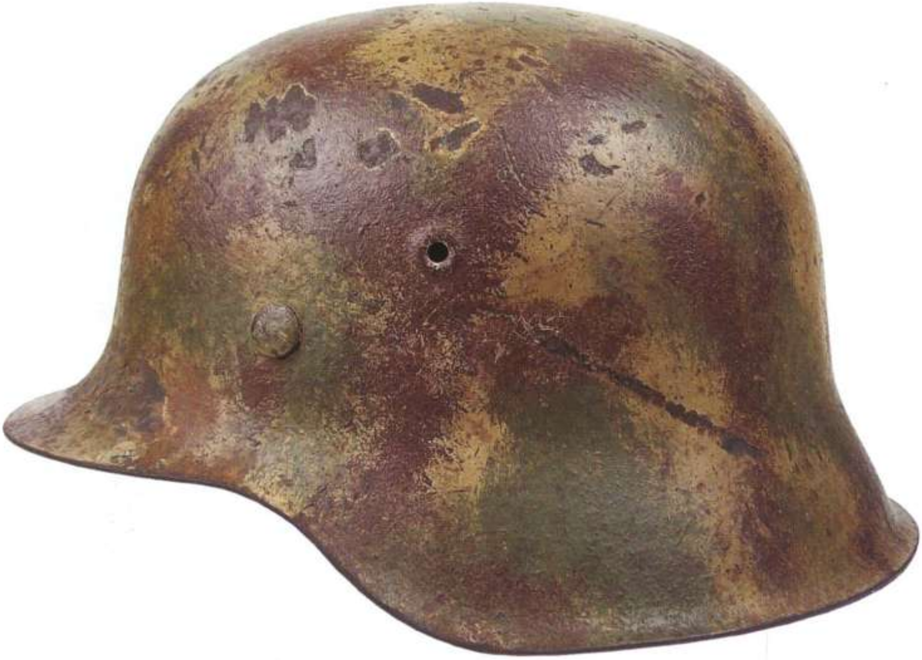




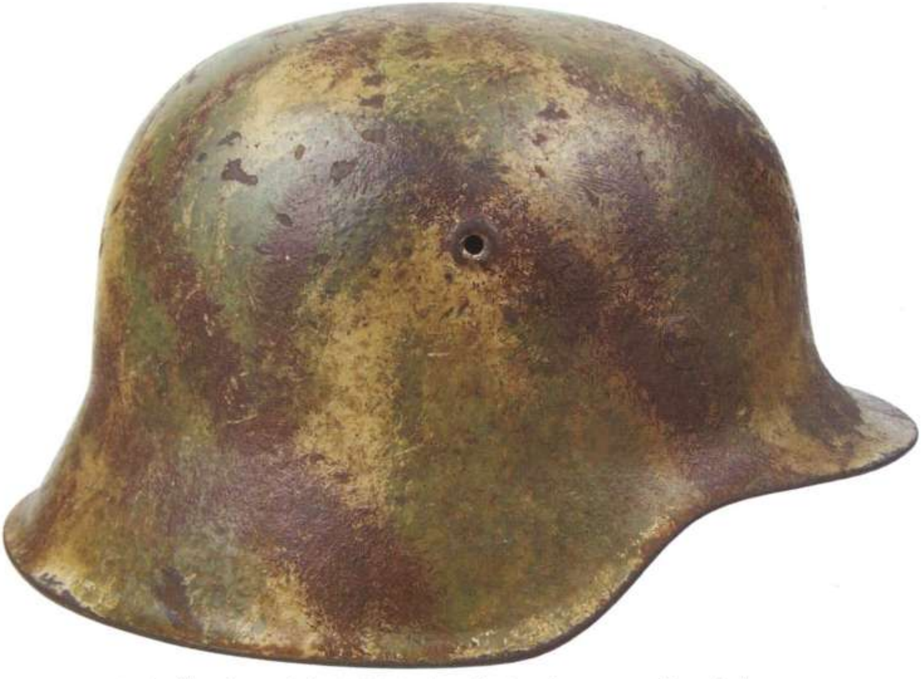
This ET-64 M35 *Luftwaffe* helmet has been brush-painted in a three color pattern. The decals have been completely covered over but remain visible in relief and through damaged areas of the camouflage over-paint. (K. Kithier)



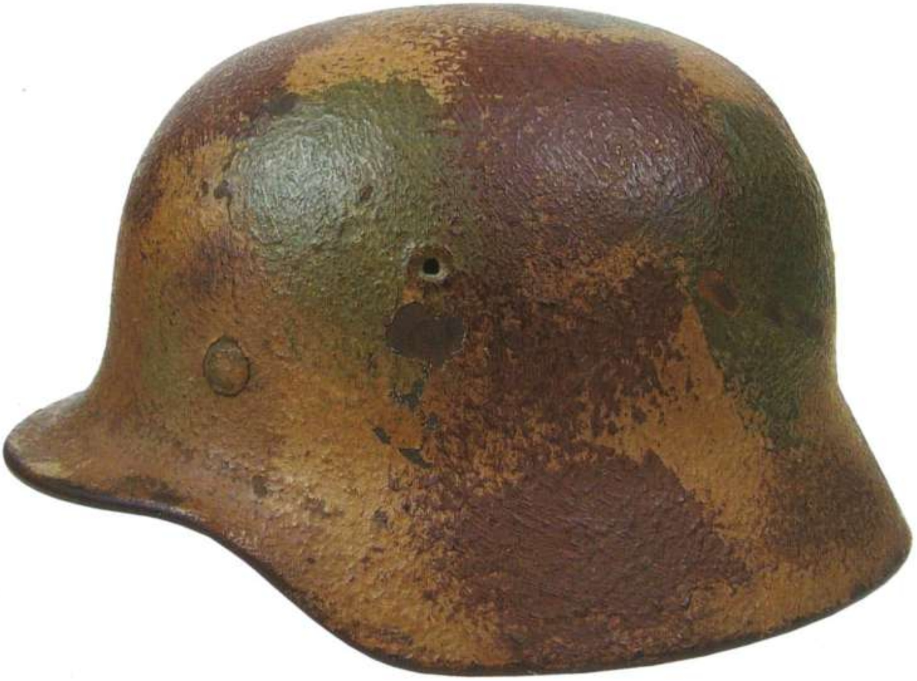
In this right side view of the ET-64 *Luftwaffe* M35, the national colors decal can be seen in small areas where the paint has been chipped.



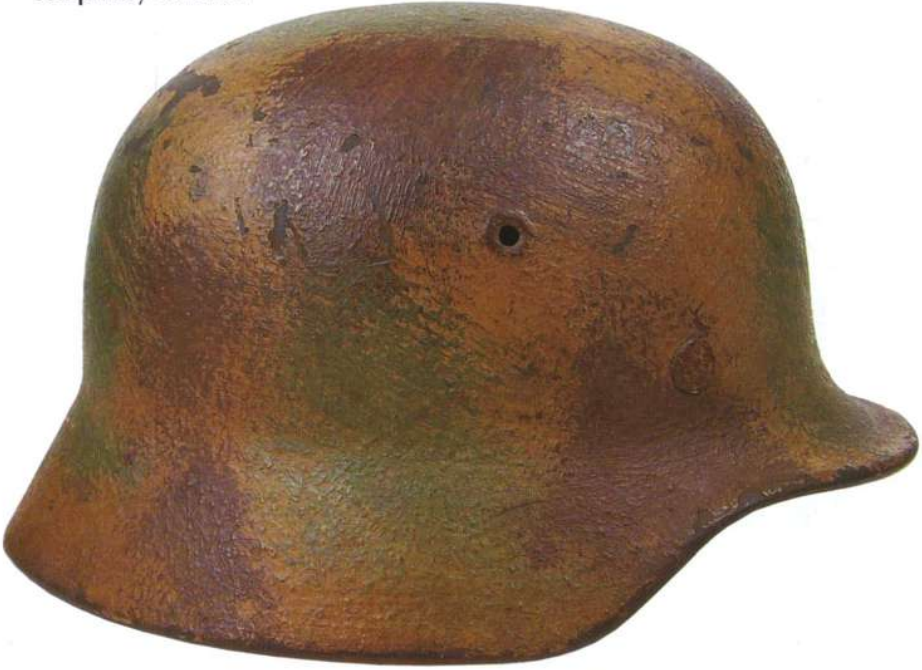
This single decal *Luftwaffe* M42 helmet is brush-painted using the same standard vehicle paint colors as the previous helmet although with a different pattern. The *Luftwaffe* eagle decal can barely be seen in outline beneath the camouflage paint.



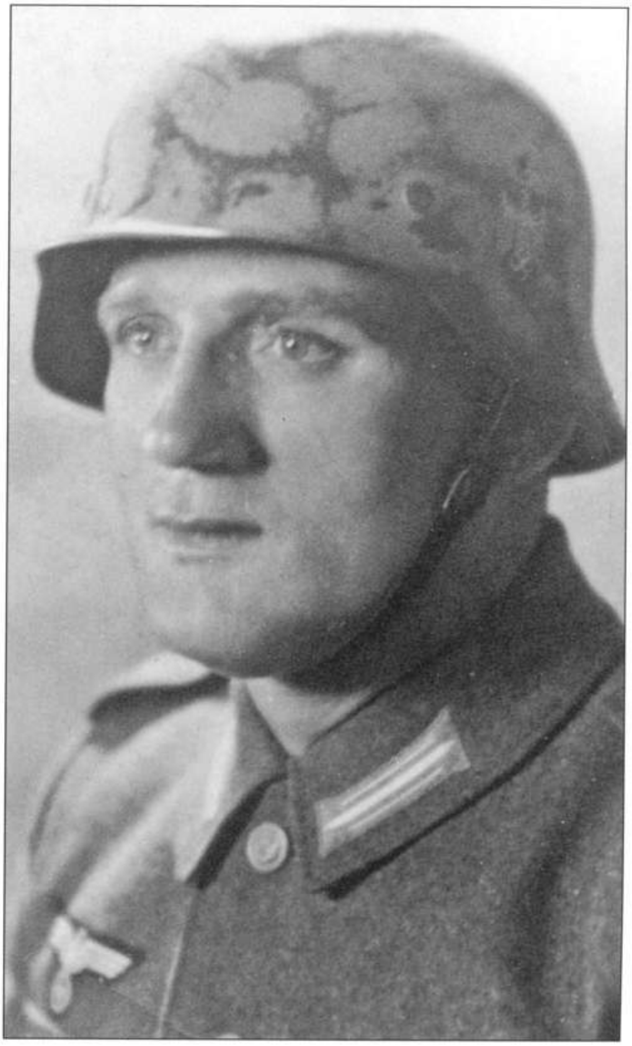
Left side view of the M42 *Luftwaffe* 3-color camouflage helmet.



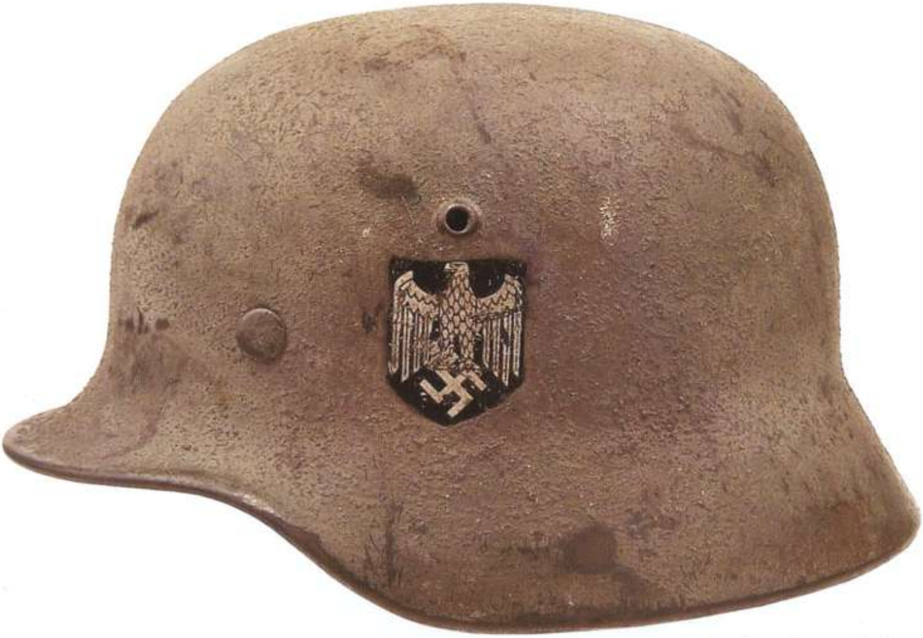
Another example of the standard vehicle paint colors being used. This M40 NS-62 single decal *Heer* helmet has been over-painted by brush. The decal has been completely covered.



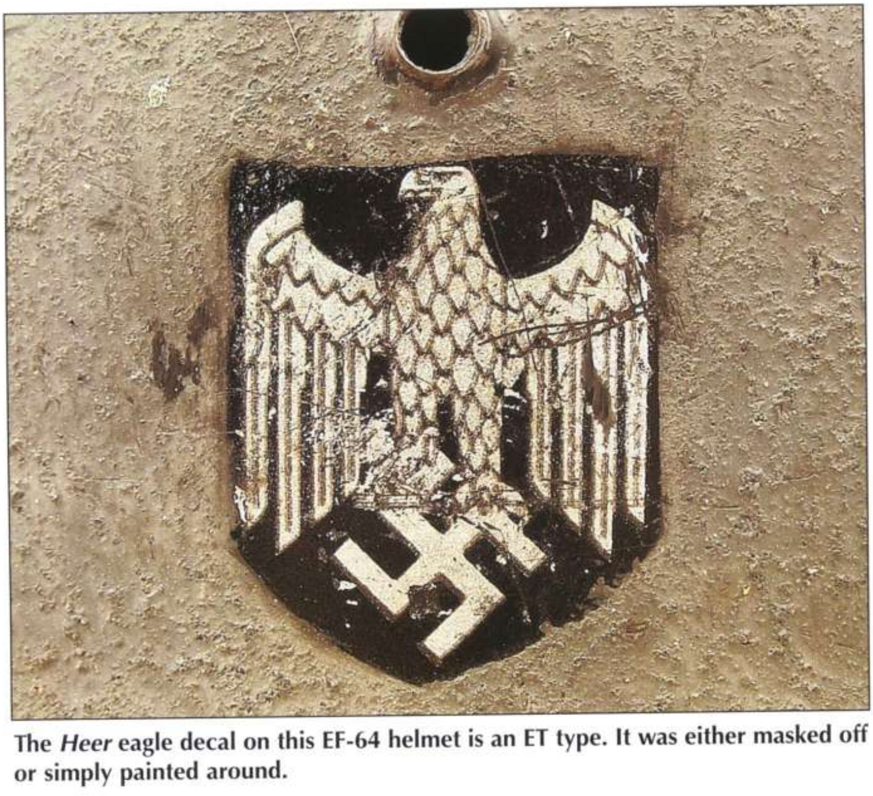
The right side view of the M40 NS-62 camouflage helmet.



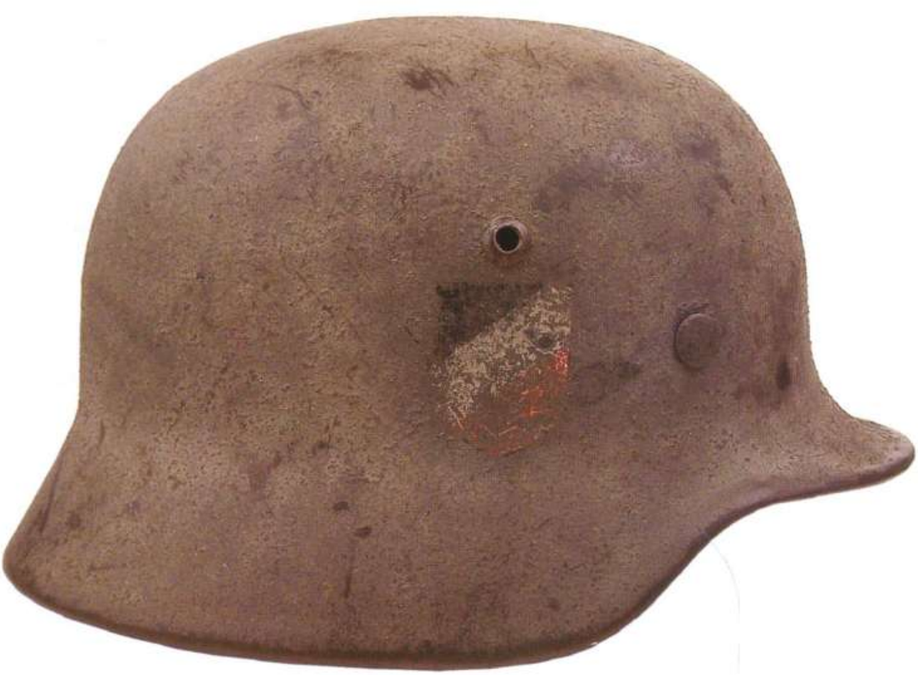
This member of the *Kriegsmarine* coastal artillery wears a camouflage helmet with random brush strokes. (Landy Hardy)



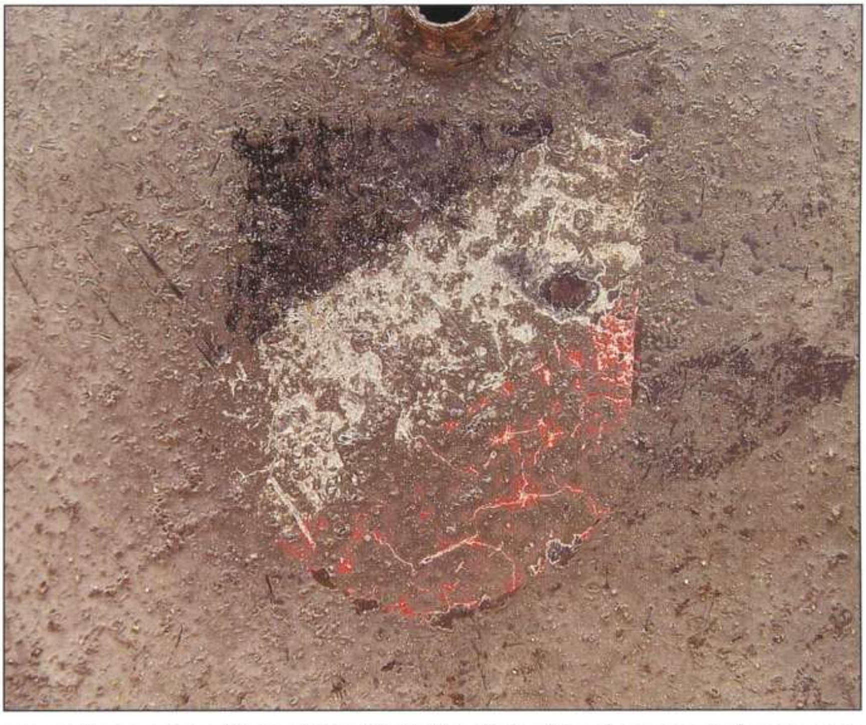
This EF-64 double decal *Heer* helmet has been over-painted with a brush-applied thick coat of grey paint which has had sand mixed with it.



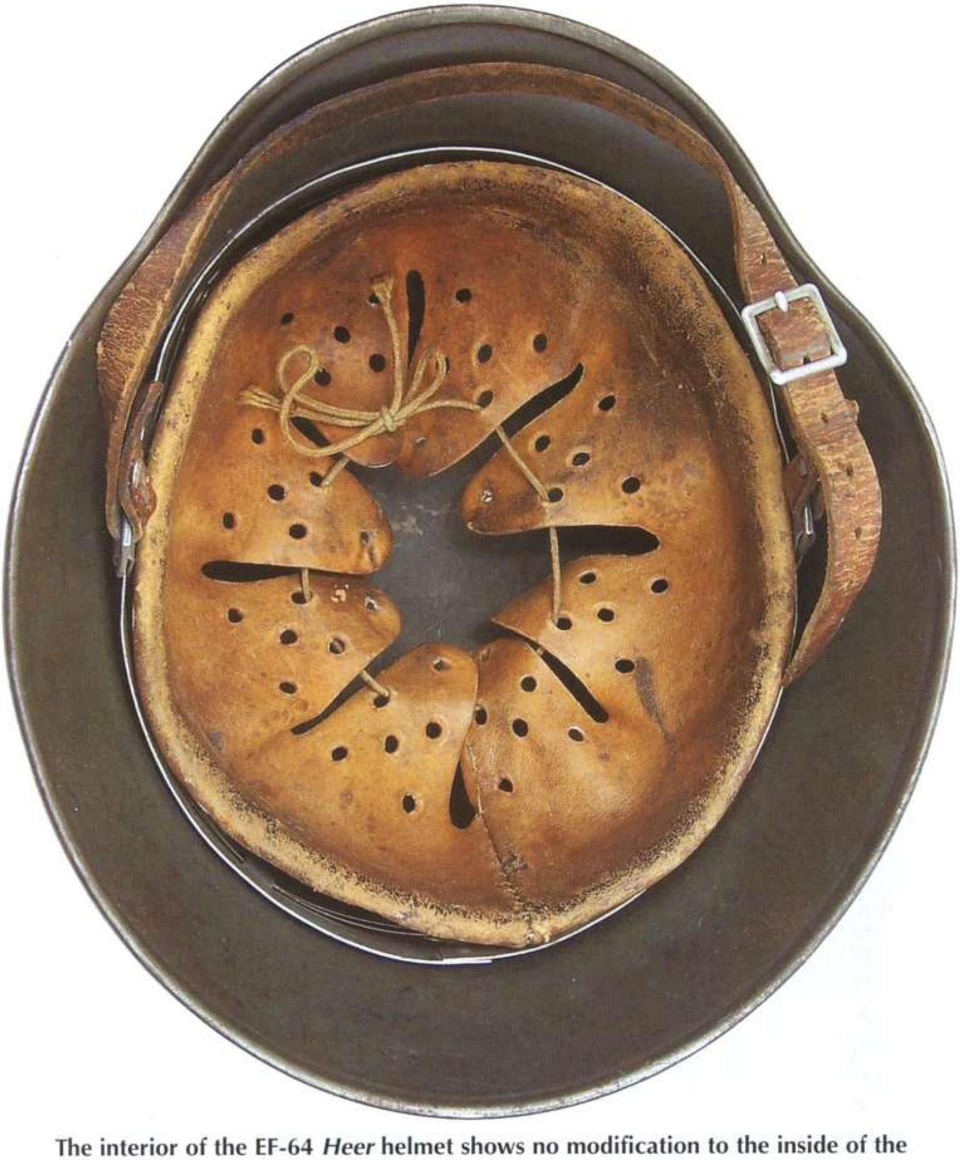
The *Heer* eagle decal on this EF-64 helmet is an ET type. It was either masked off or simply painted around.



Right side view of the EF-64 double decal *Heer* helmet.

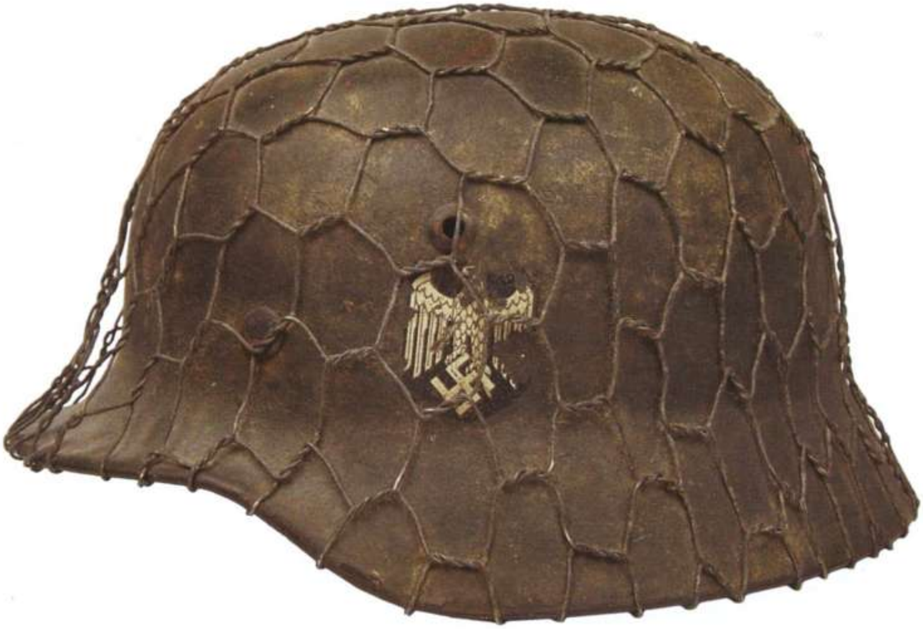


The national colors shield of this EF-64 *Heer* helmet has been painted over yet it is still partially visible.



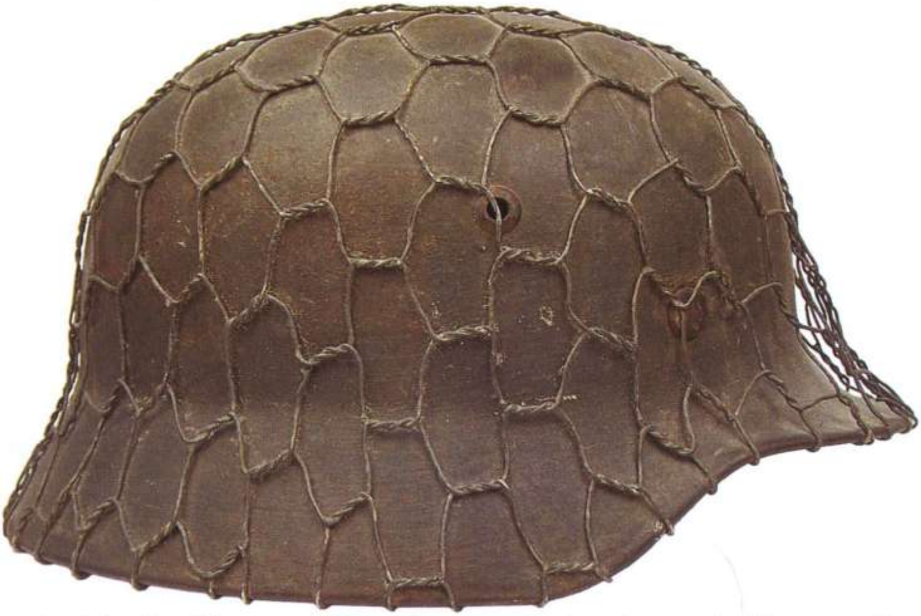
The interior of the EF-64 *Heer* helmet shows no modification to the inside of the shell. The original factory installed liner and chinstrap are both dated 1938. Note, however, that the chinstrap has been installed so that the smooth brown colored side is facing outward.

Otto Spronk Photo Collection

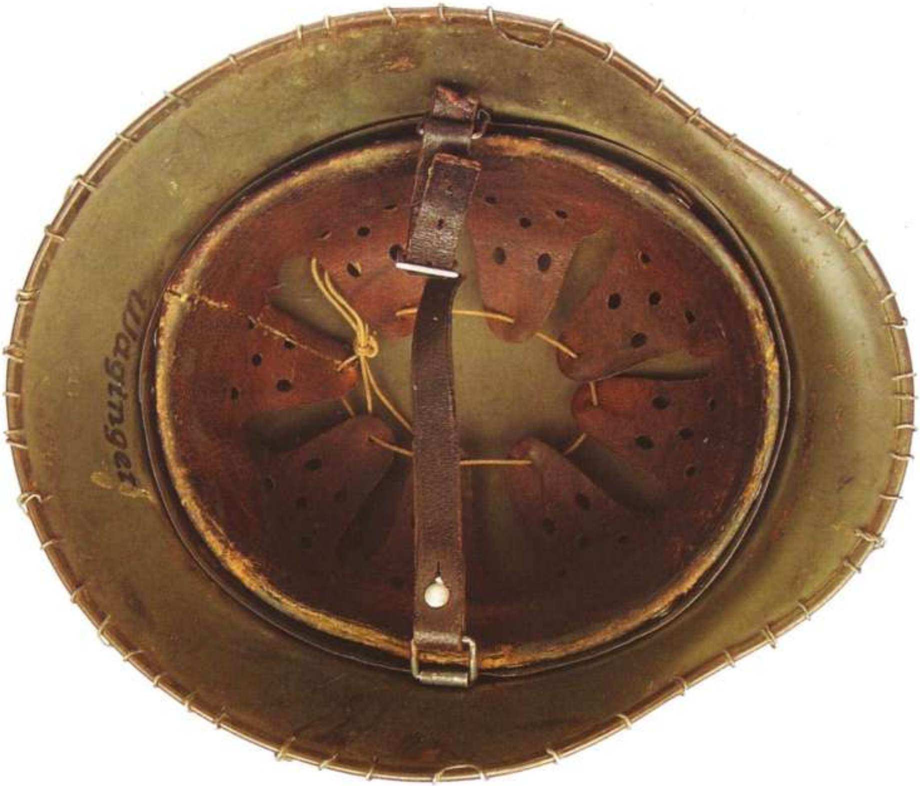


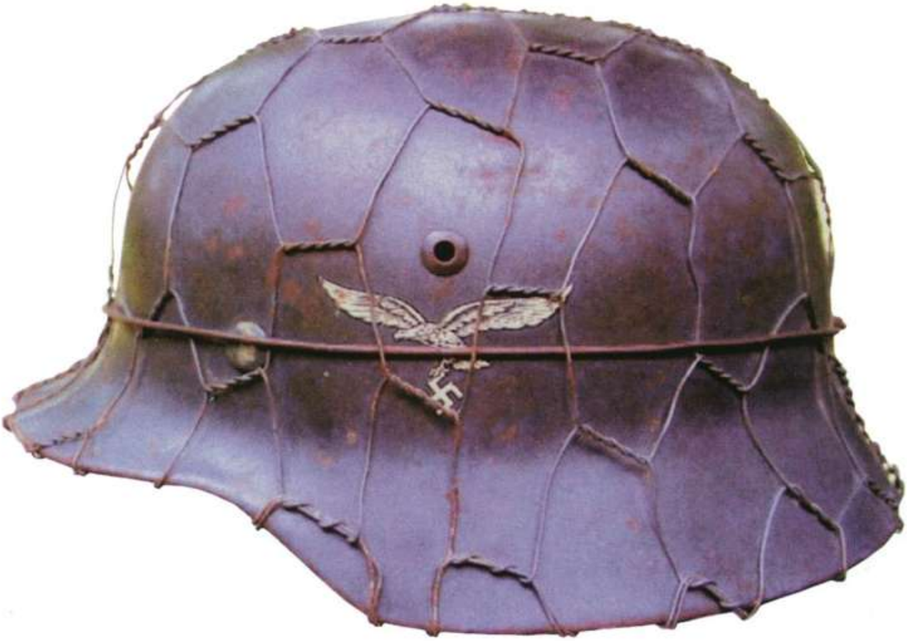
This M35 helmet is a former double decal which has been over-painted and covered with a medium-sized mesh basket of chicken-wire. Chicken-wire was a practical material that was commonly found on farms in most occupied countries. Helmets that have been covered with chicken-wire are seen in original photos mostly in the western theaters and mostly after the June 6, 1944 allied landings in France. (It is assumed that chicken-wire usage in Russia was limited by the fact that farms were collective, state managed organizations, which did not often utilize this form of control for agricultural animals and thus there was lesser opportunity for German soldiers to acquire such materials for application to their helmets.) (Courtesy T. Kibler)

This interior view of the M35 helmet with chicken-wire shows that the strands of wire have been cut short and bent over the rolled rim of the helmet. ➧ The inner rim and dome of the helmet retain the original factory applied M35 smooth texture paint. (Courtesy T. Kibler)

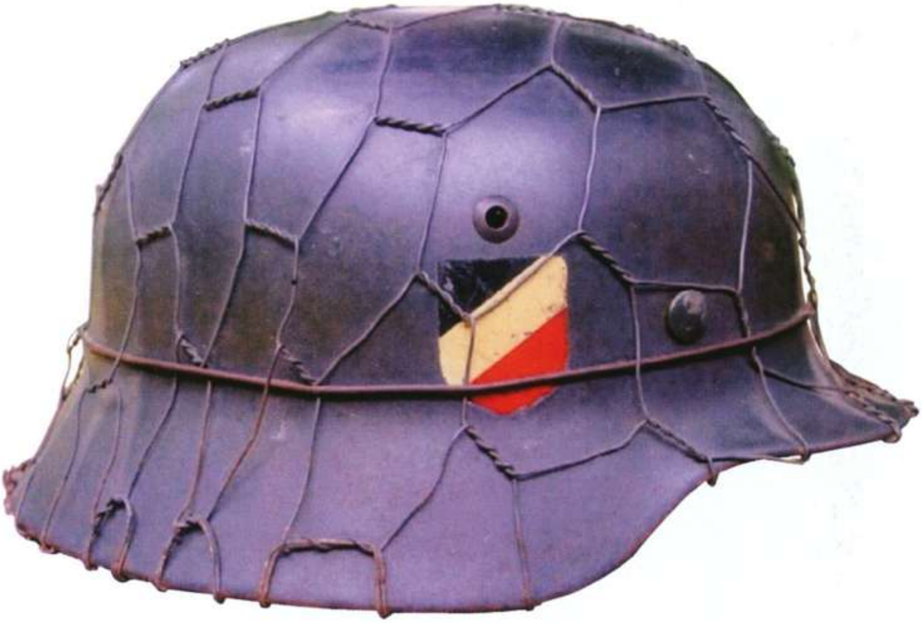


The right side of the M35 chicken-wire covered helmet shows only faint traces of the national color shield which has been painted over. (Courtesy T. Kibler)

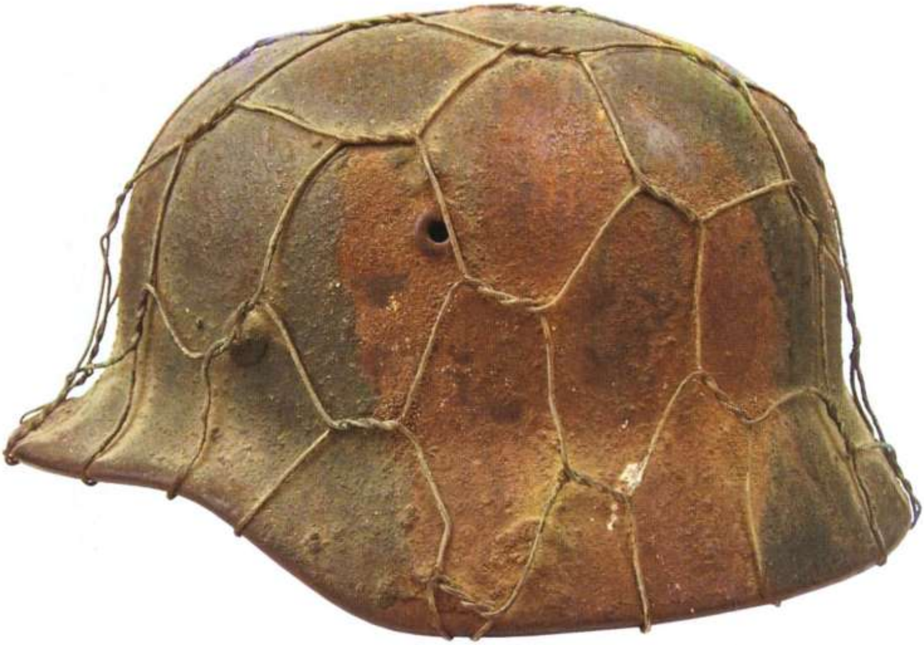




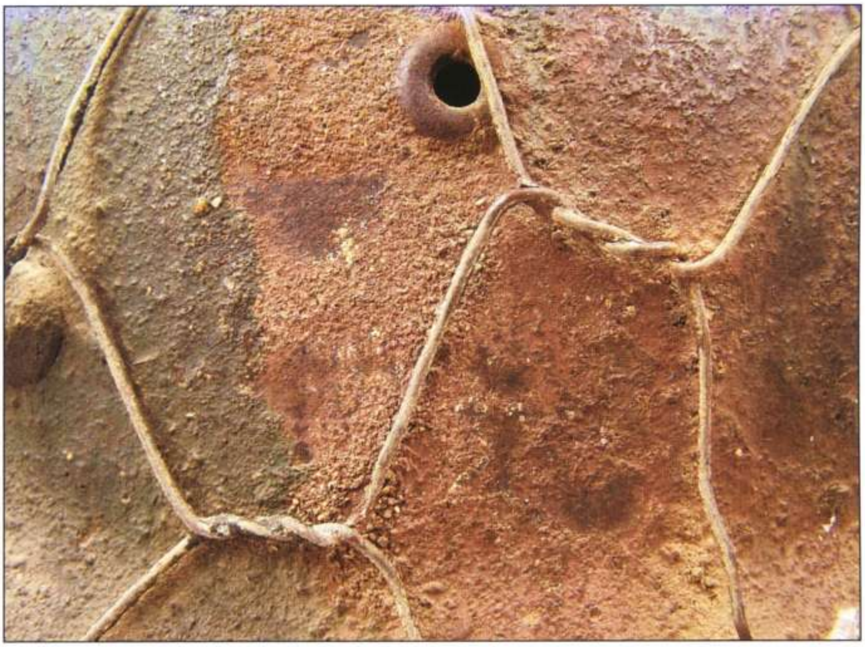
A fine example of an M35 double decal *Luftwaffe* helmet which has had a large mesh, full-basket of chicken-wire applied. (Courtesy R. Hamilton)



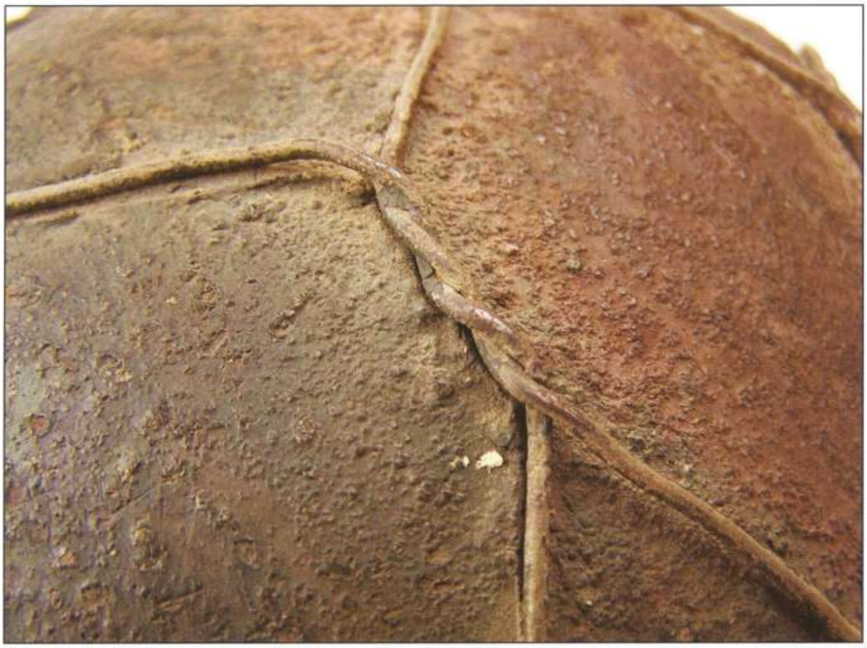
Curiously the attempt to camouflage this helmet did not entail removing the national color shield. Perhaps the wire was intended as a temporary measure to be removed later when no longer necessary. (Courtesy R. Hamilton)



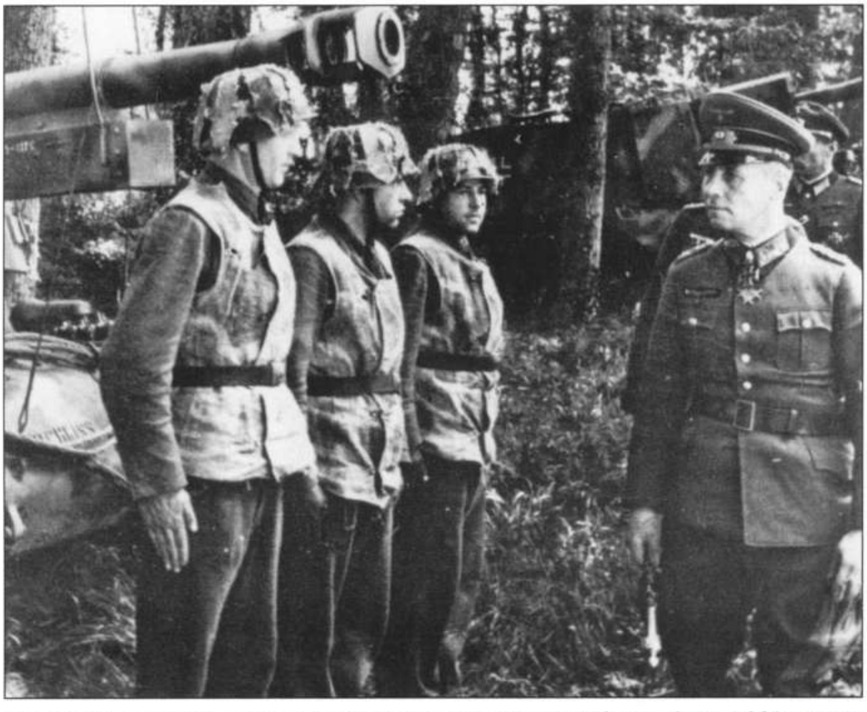
This M40 Q-64 single decal helmet has been painted over in two non-standard colors that have been mixed with either sand or ash to give added texture. The helmet is also covered with large mesh chicken-wire.



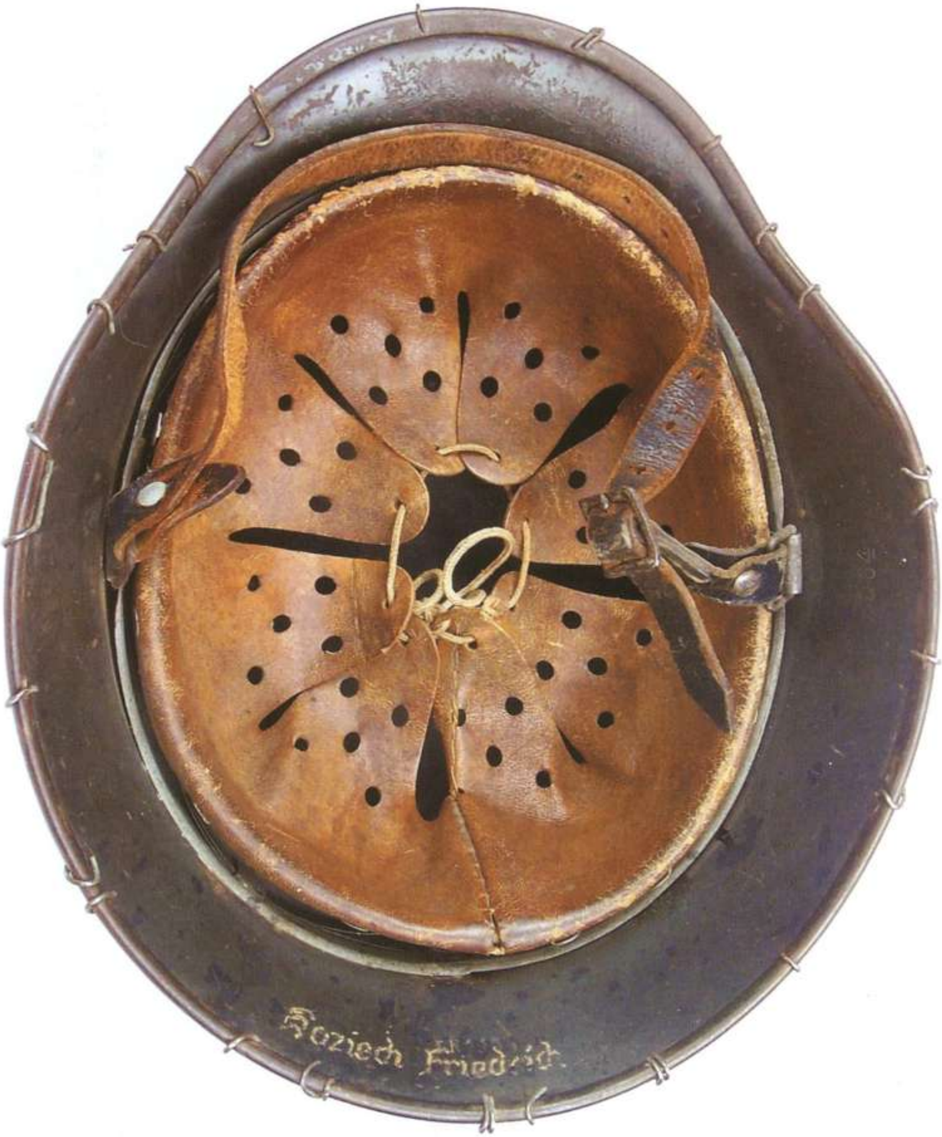
A detail photo of the Q-64 helmet shows the decal appearing through a damaged area of the camouflage. Under magnification, this fragment of exposed decal has properties similar to that of a *Kriegsmarine* decal possibly identifying this helmet as having been issued to naval coastal artillery personnel.



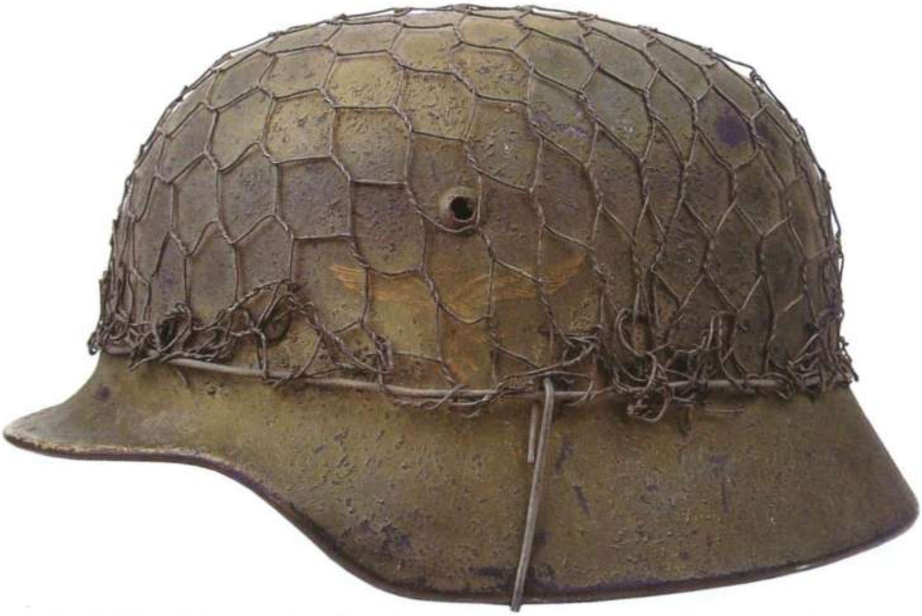
This detail photo of the Q-64 helmet shows how the wire has sunken into the thickly applied over-paint. This photo suggests that the wire was applied to the helmet before the camouflage was painted onto it.



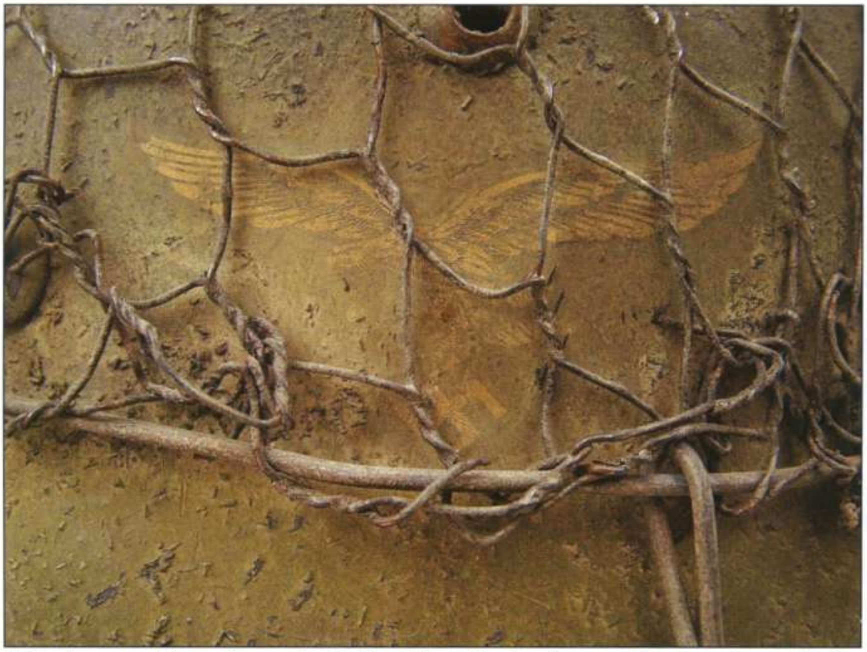
Rommel inspects the crew of a "tank hunter" (converted French Hotchkiss H-39 tank) at Normandy. Note the makeshift helmet camouflage worn by the crew.



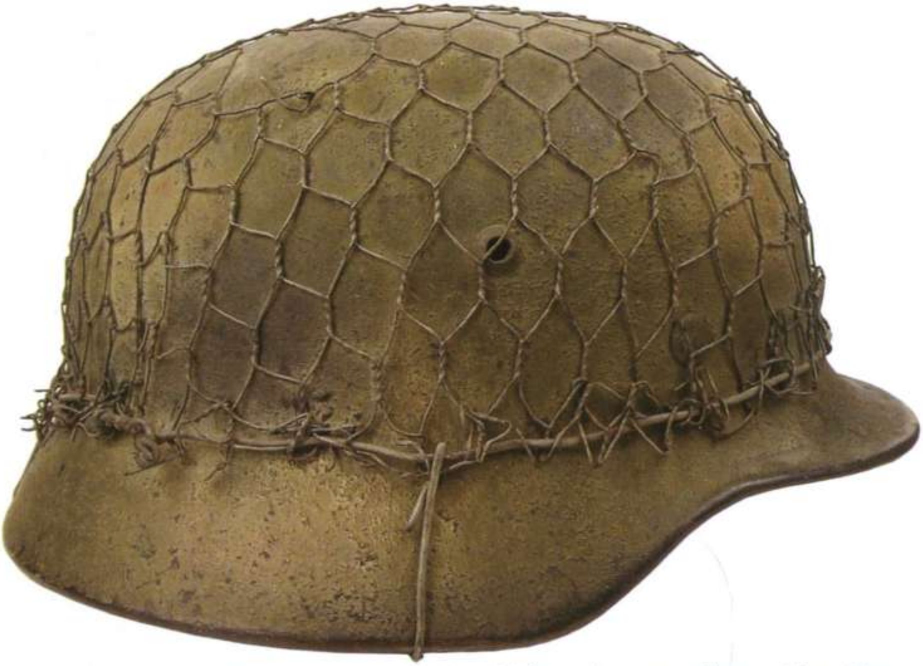
Inside view of the Q-64 helmet shows that the wire ends are neatly bent over the rim of the helmet. The name "Kozisch Friedrich" is painted on the rear rim. The surname is an unusual one and prompted research which has led to the discovery of one Friedrich Kozisch (born 21 June, 1923) who is listed as missing near Stettin (Poland) in February of 1945. His name appears on the naval memorial near Kiel, Germany.



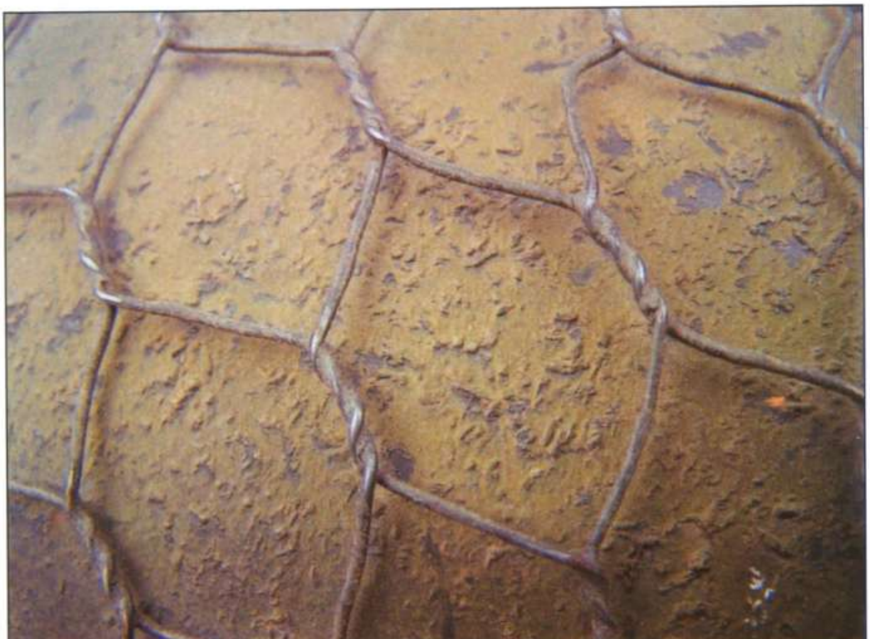
This M35 EF-66 M35 *Luftwaffe* helmet has been over-painted by spray and chicken-wire has been applied over the surface.



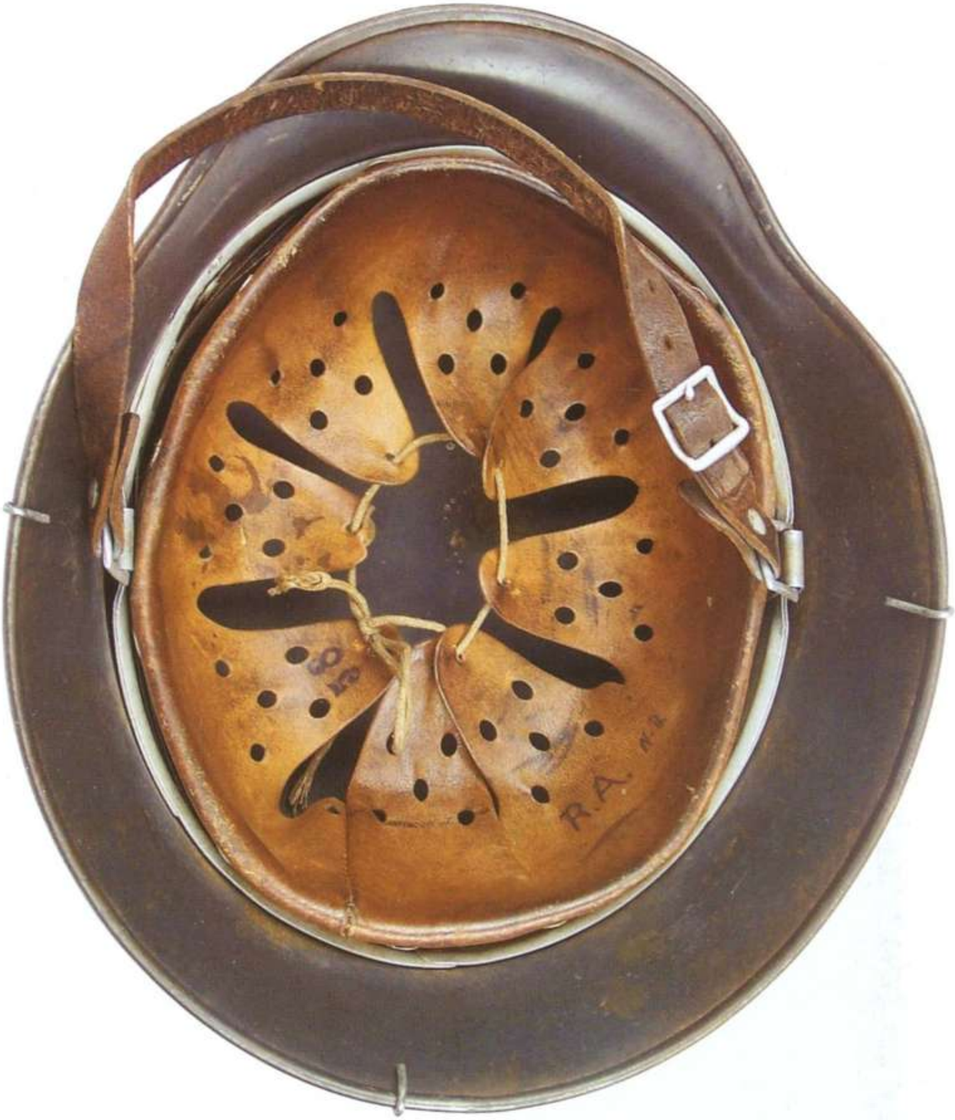
This close-up photo shows the *Luftwaffe* eagle decal appearing from beneath the sprayed finish.



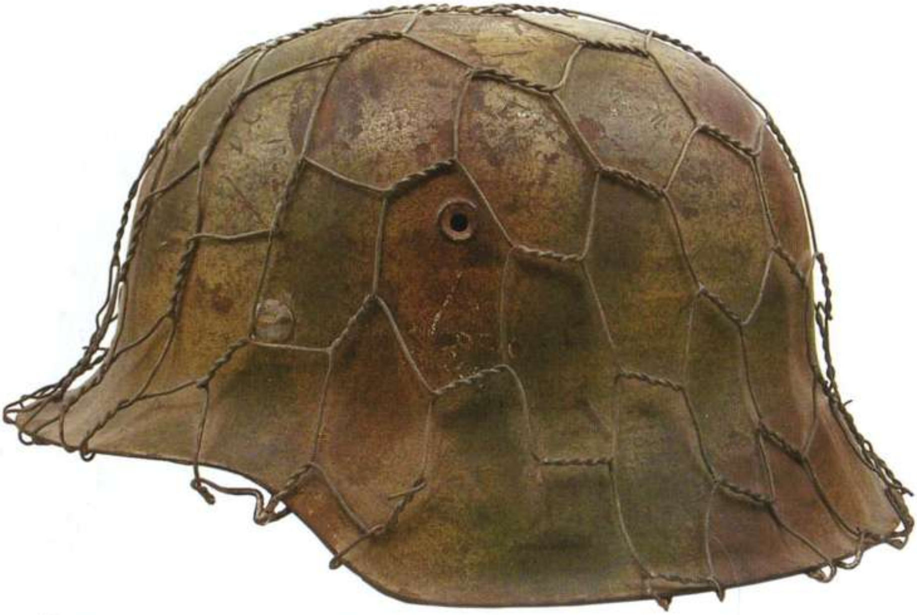
Right side view of the EF-66 helmet with a chicken-wire camouflage retainer. The wire arrangement is the so-called "half basket" type and is held to the shell by three strips of baling wire bent over the rim.



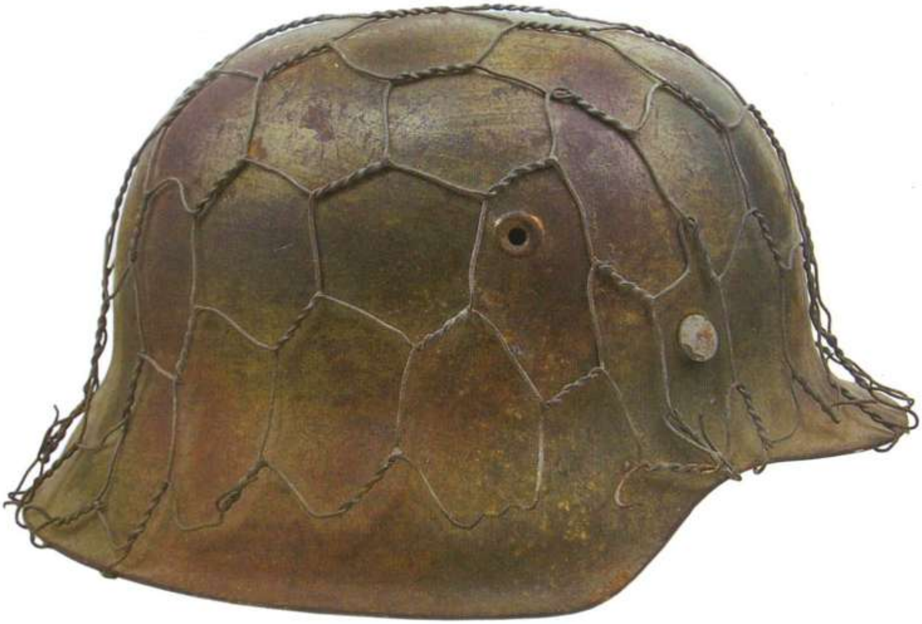
This view of the EF-66 helmet shows details of the small mesh wire and the sawdust which as been added to the paint to provide texture and reduce reflection.



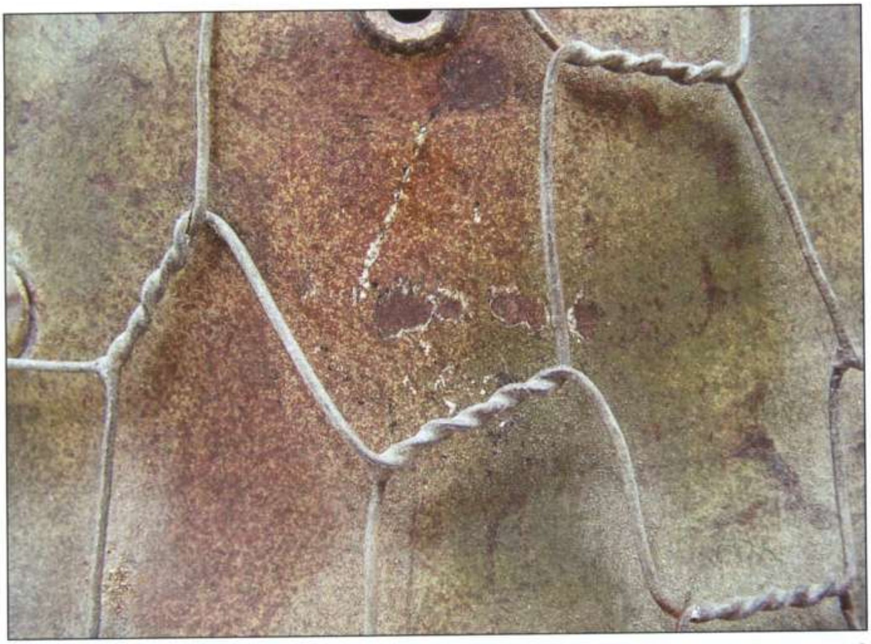
Interior view of the EF-66 helmet with a half-basket chicken-wire camouflage retainer shows a 1939 dated aluminum framed liner and a *Luftwaffe* brown chinstrap.



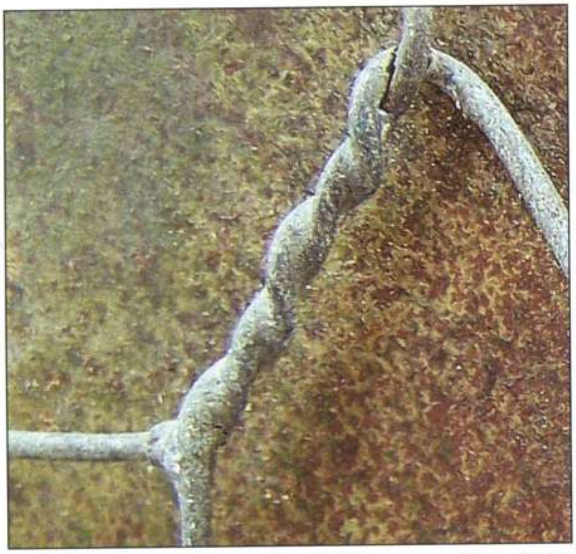
This M42 NS-64 *Heer* helmet has been over-painted by spray in a 3-color scheme. Chicken-wire has been loosely wrapped over the exterior of the shell.



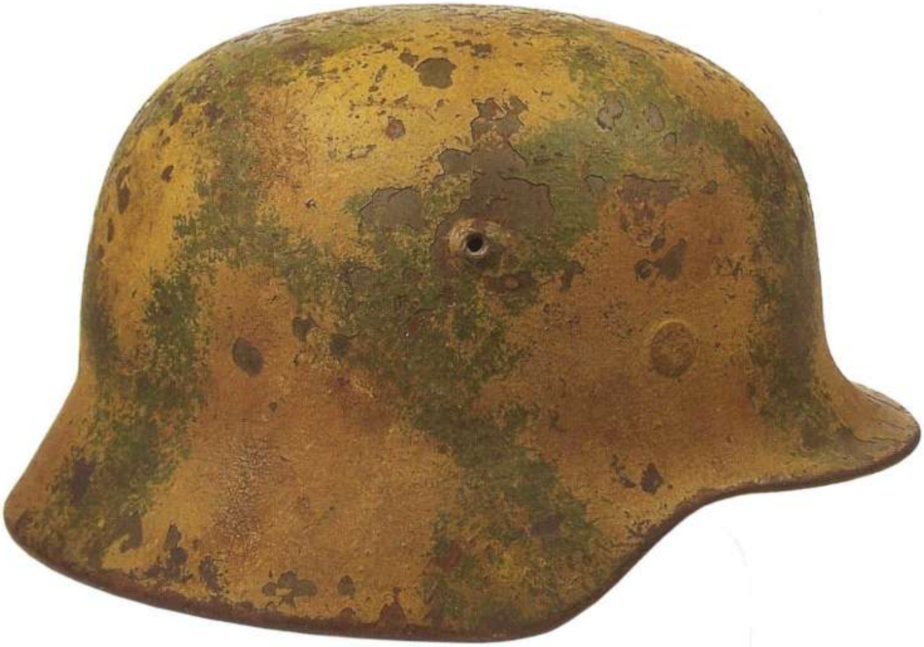
This right side view of the NS-64 camouflage helmet shows that the chicken-wire has not been completely attached to the rim.



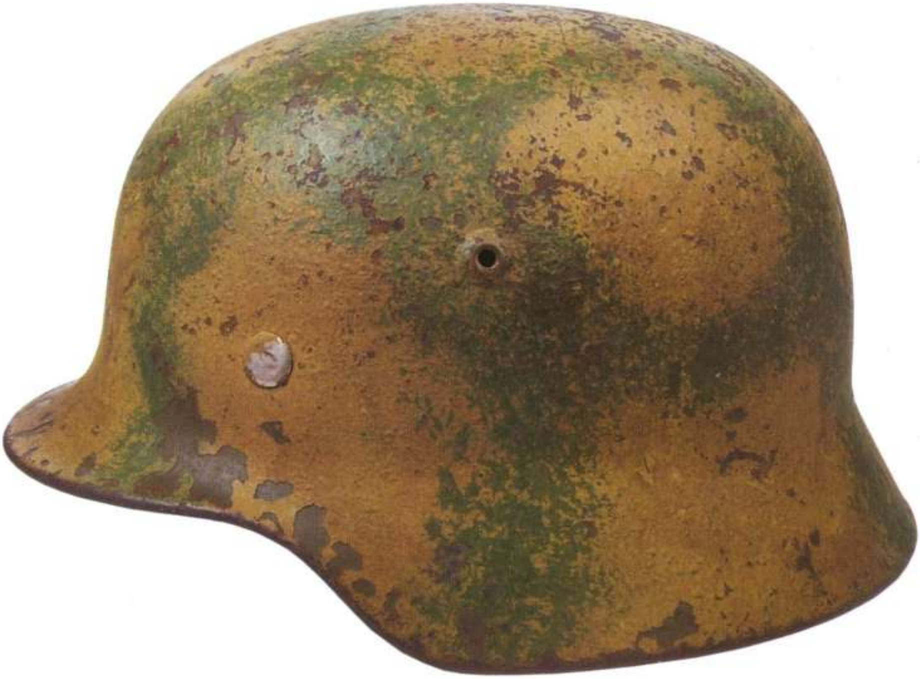
A left side close-up view shows the *Heer* eagle decal showing through the sprayed camouflage paint.



A detail photo of the wire mesh on the NS-64 camouflage helmet. Note the method of wire construction is common to pre-1945 examples. This photo clearly shows that the wire has a single direction twist and was anodized after the mesh was woven. It should be noted that the application of chicken-wire is a favorite method used by fakers in order to replicate a camouflage helmet. Simply speaking, the majority of chicken-wire helmets found in the collector market are post-war fabrications. Great care should be exercised in examining every aspect of any certain example and the collector is urged to become fore-armed with knowledge gained by the observance of known originals.

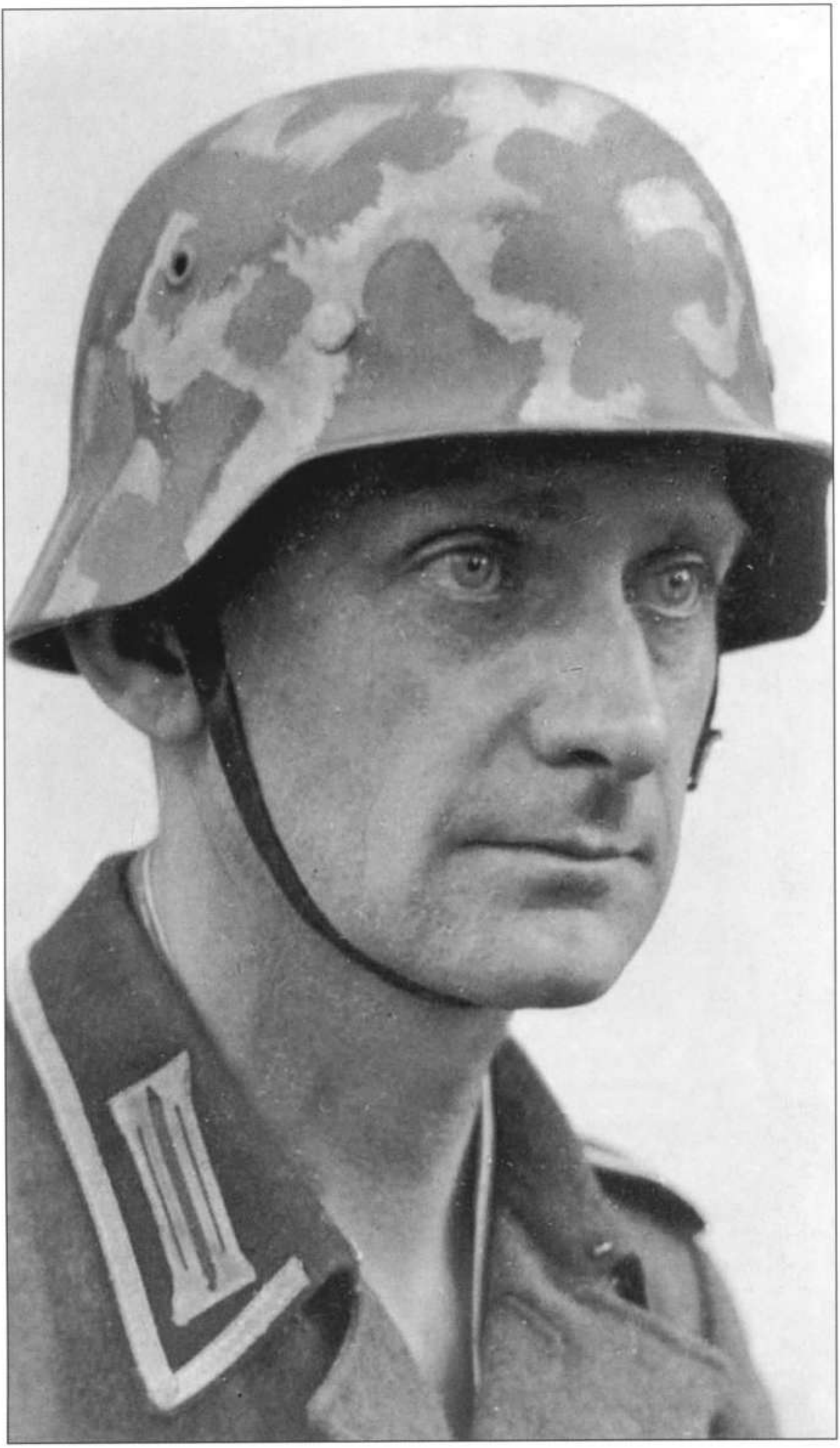


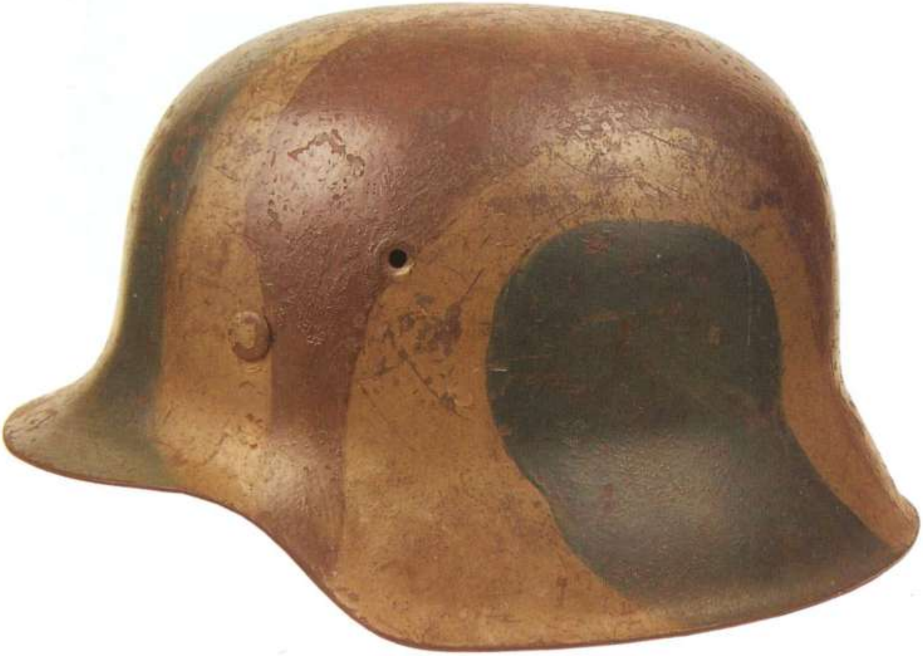
This SE-66 M35 helmet has been painted by brush in a two-color pattern. The factory applied smooth texture paint is visible in damaged areas of the camouflage.



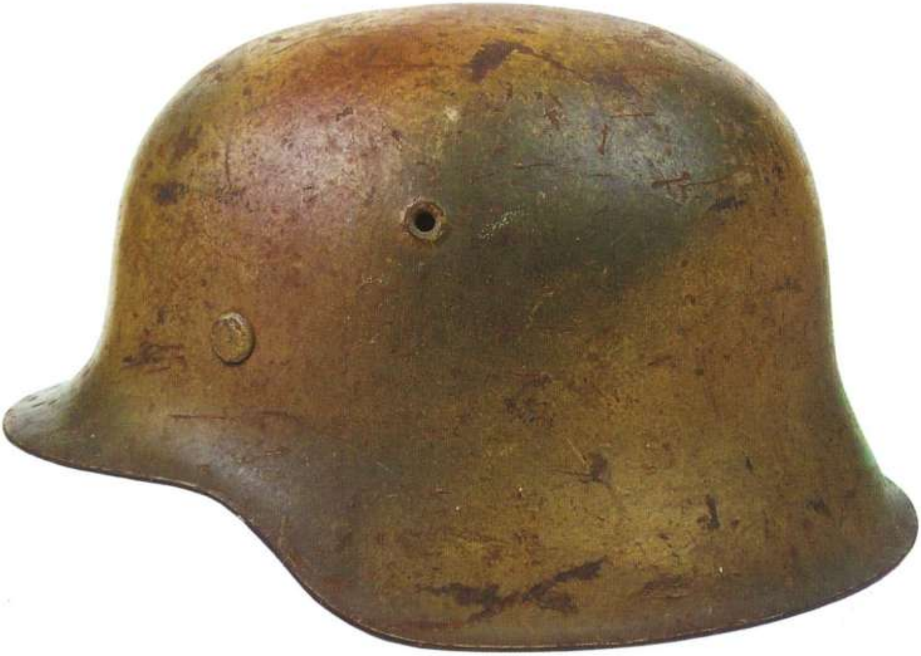
There is no evidence of decals beneath the camouflage over-paint. They may have been removed prior to the application of the green and tan.

Otto Spronk Photo Collection

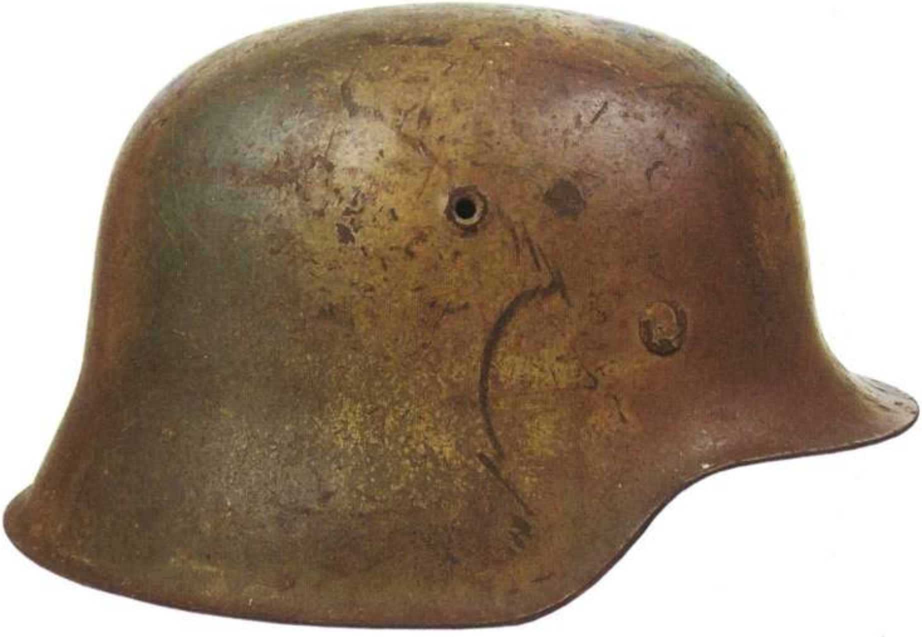




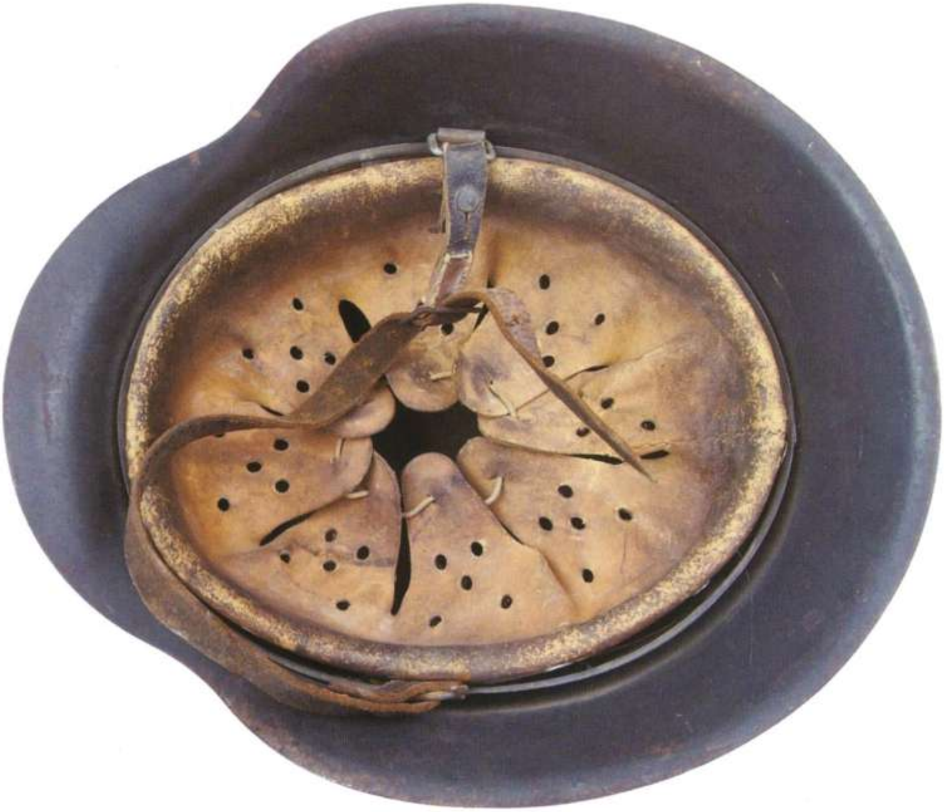
This M42 EF-64 *Heer* helmet has been brush-painted with large swirls. There is no evidence of an underlying decal.



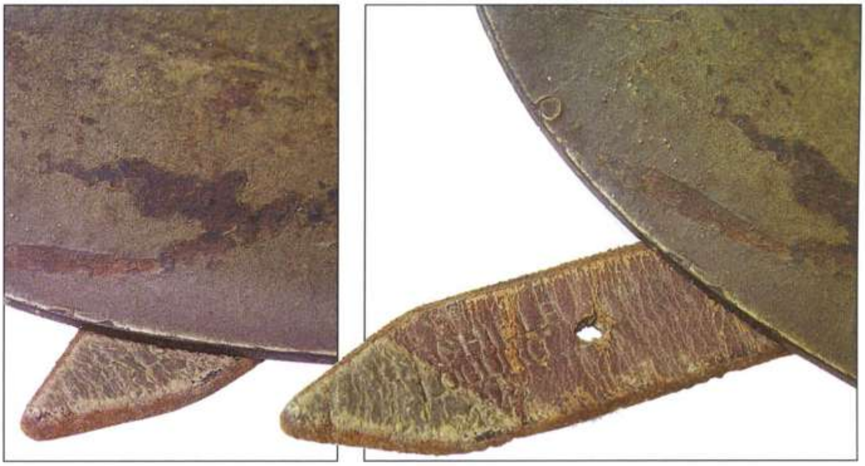
This Model 42 helmet has been air-brushed in a three-color camouflage pattern.



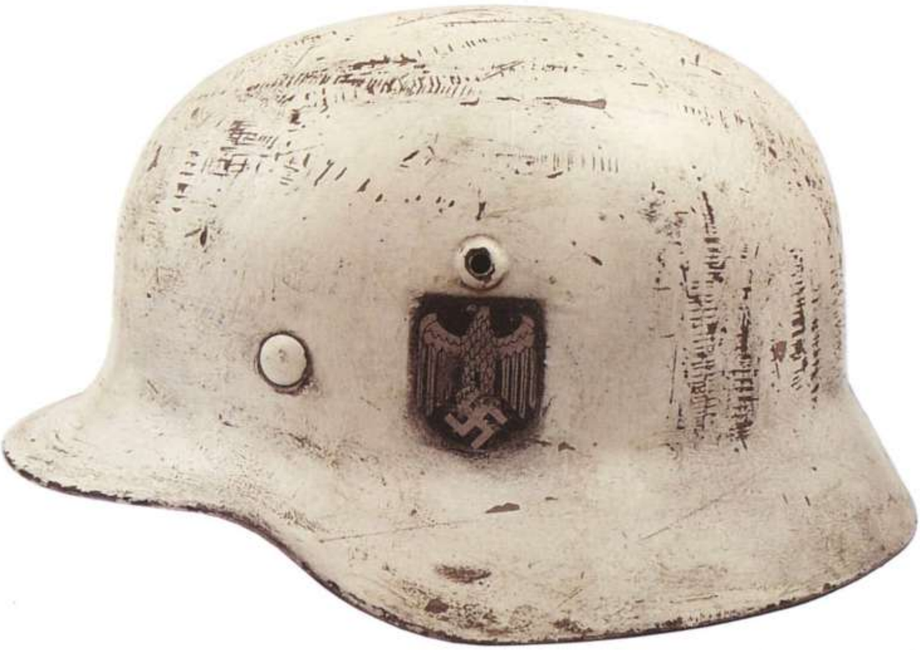
The colors of this helmet are typical of those referred to by collectors as the "Normandy pattern" camouflage but this is misleading. There is actually very little difference in the colors of foliage among most European countries and hence there is little ability to correctly discern from the colors alone, the region in which any given helmet may have been camouflaged.



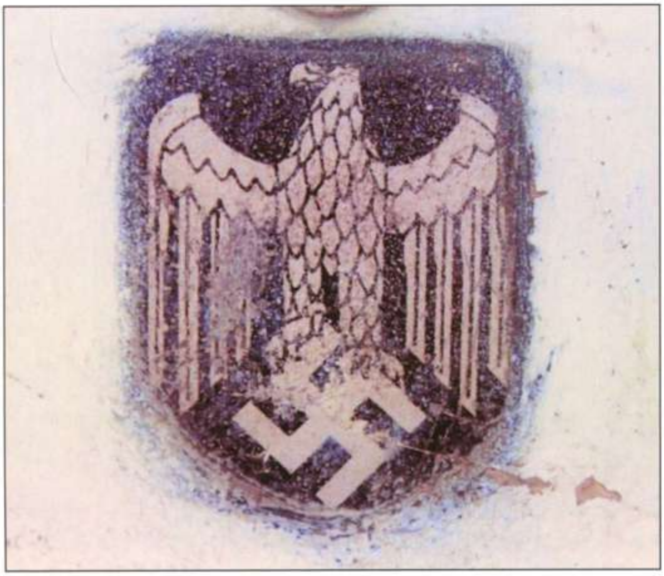
The liner of this M42 helmet shows the heavy wear that one would expect to see in helmets worn in combat.



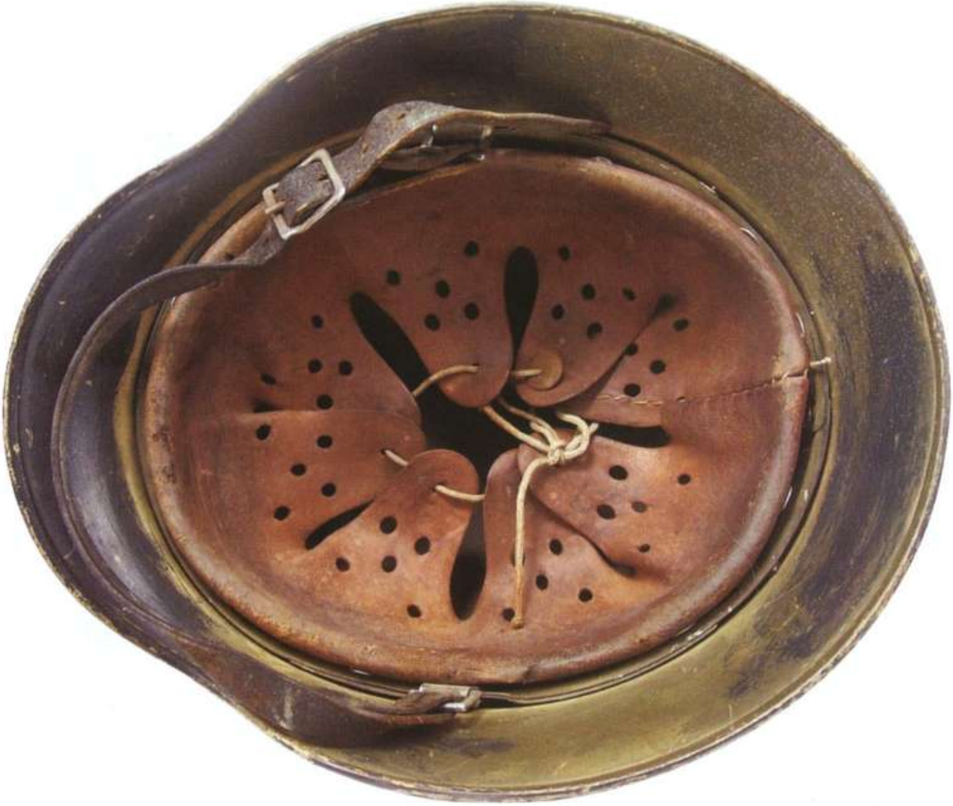
Examination of the chinstrap on this Model 42 shows that at the time the camouflage was applied, the helmet was apparently placed onto a flat surface with a portion of the tip of the chinstrap protruding from beneath the helmet. Paint which matches that applied to the shell is found on the chinstrap.



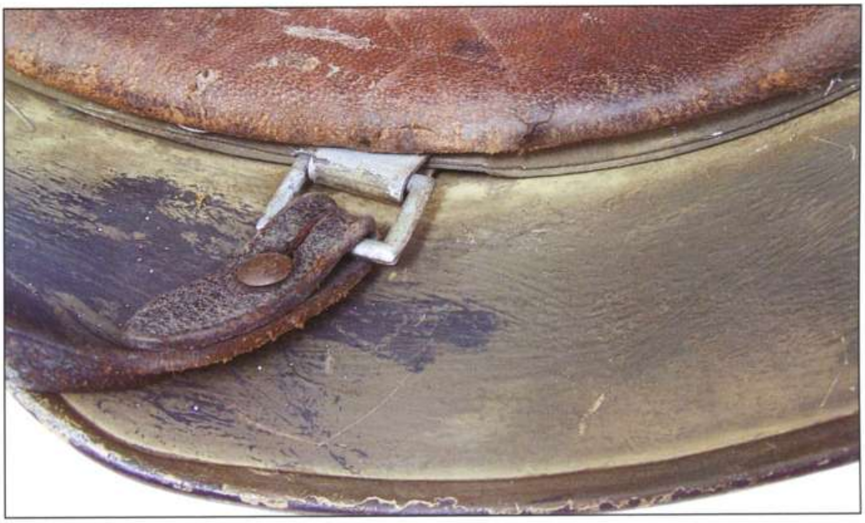
The exterior surface of this M35 Q-66 helmet has been brush-painted with white paint. There is evenly distributed damage to the white paint which appears to be caused by a heavy blade having been scraped over the surface. Possibly this was an attempt to subdue the white color. In the damaged areas of the white one can see evidence of an underlying camouflage paint job which was composed of brown, green and black colors. (Courtesy R. Sollitto)



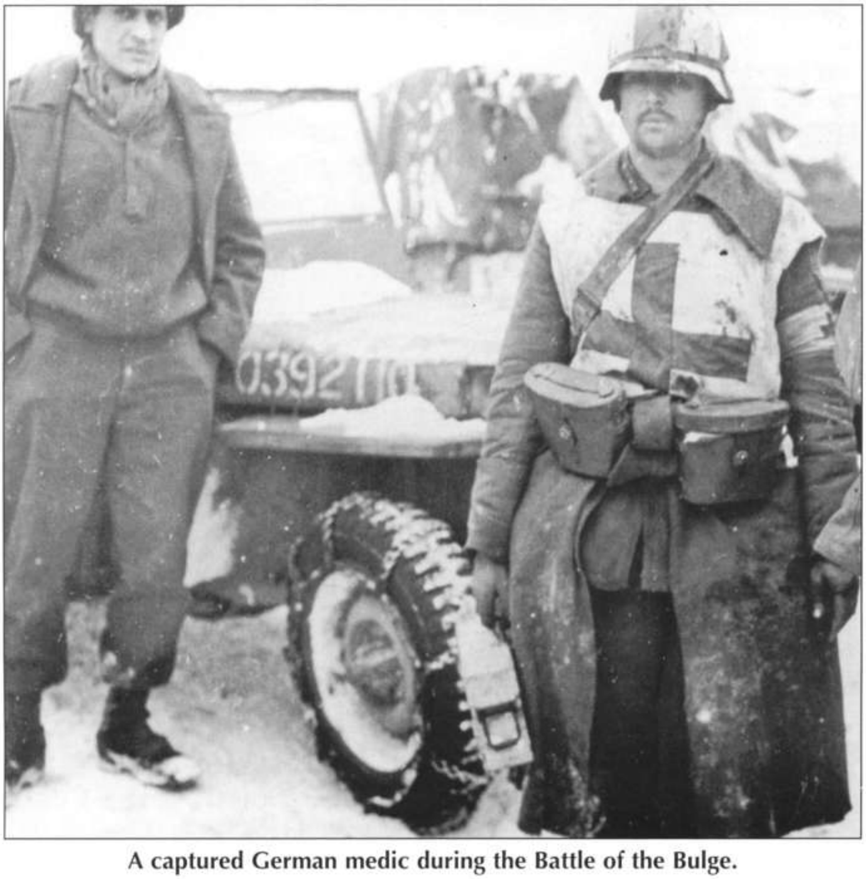
This close-up of the decal shows that it was masked off during the application of the white paint.



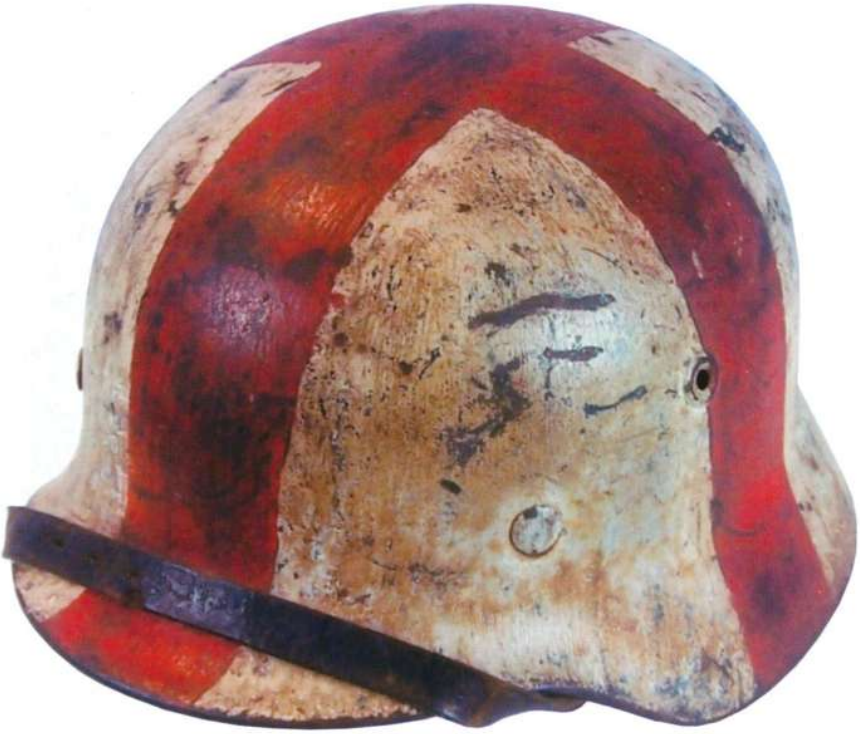
This view of the interior of the above snow camouflaged helmet shows that the helmet had previously been camouflage painted. (Courtesy R. Sollitto)



This detail shows that camouflage paint was crudely applied to the inner skirts of the helmet and had spilled onto the liner band. The aluminum liner band is dated 1938. It is apparent that this helmet saw action on several fronts or at least during several different seasons.

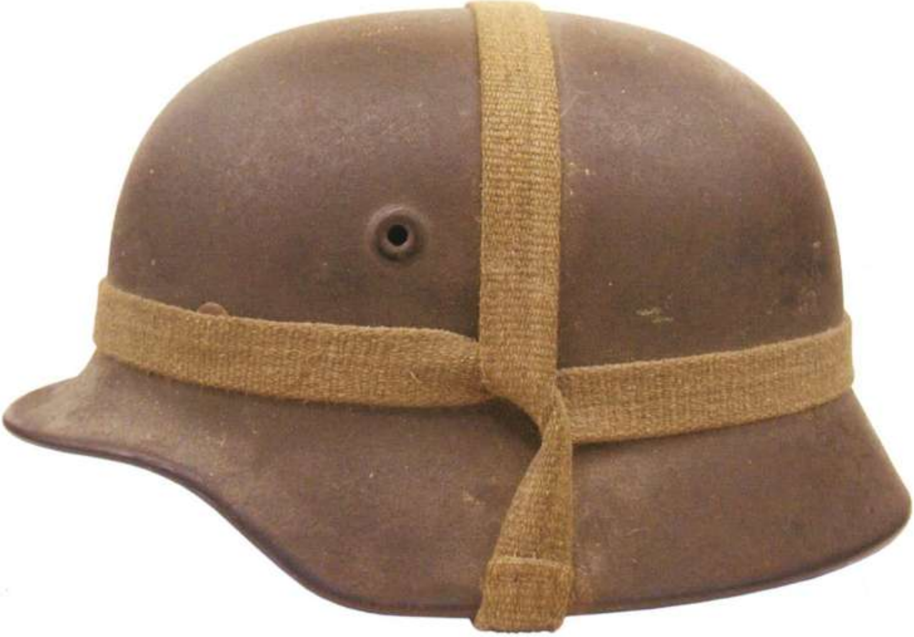


A captured German medic during the Battle of the Bulge.

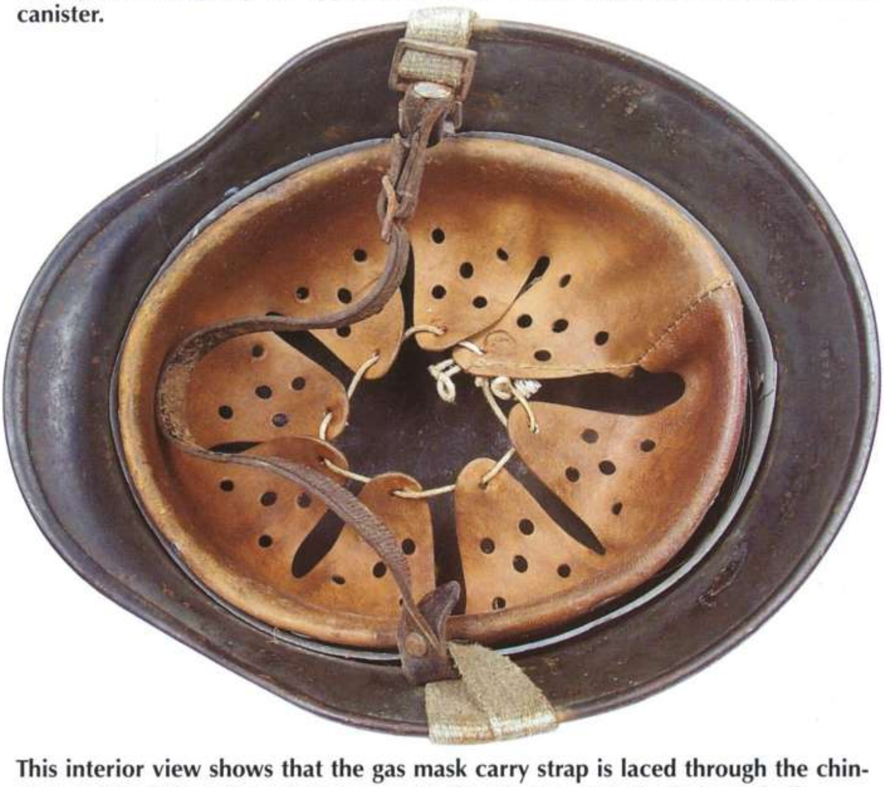


This Model 40 helmet has been over-painted in white and a large red cross applied to be visible from all angles. Helmets used by medical personnel were individually painted in various patterns but normally utilizing a white base color and one or several red crosses. (Courtesy R. Richter)

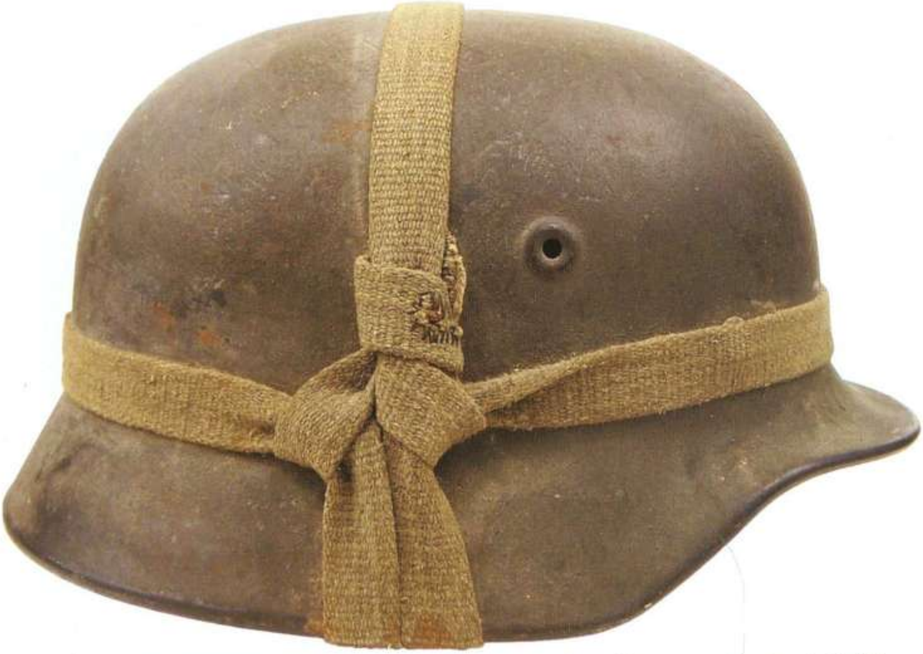
Rear right view of the M40 medic helmet. (Courtesy R. Richter)



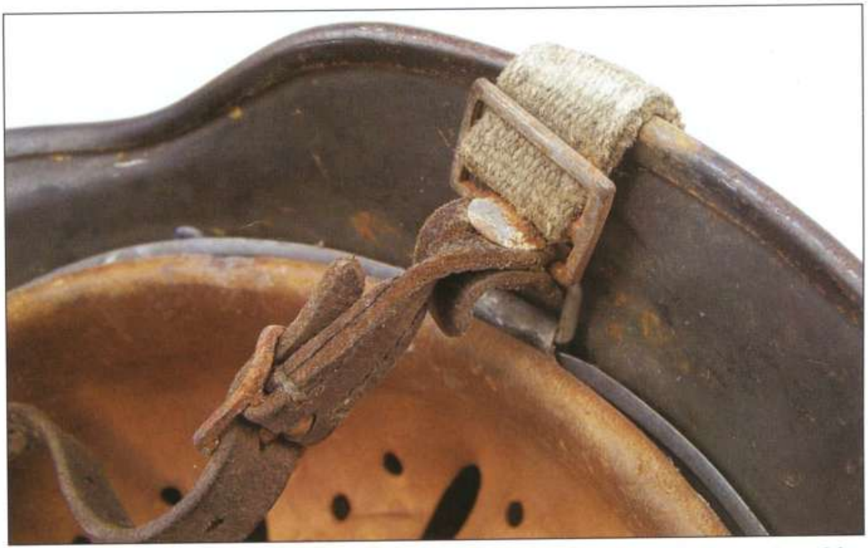
This late war Q-66 M40 no-decal helmet has been modified for purposes of adding camouflage by the application of the cloth carry strap from a gas mask canister.



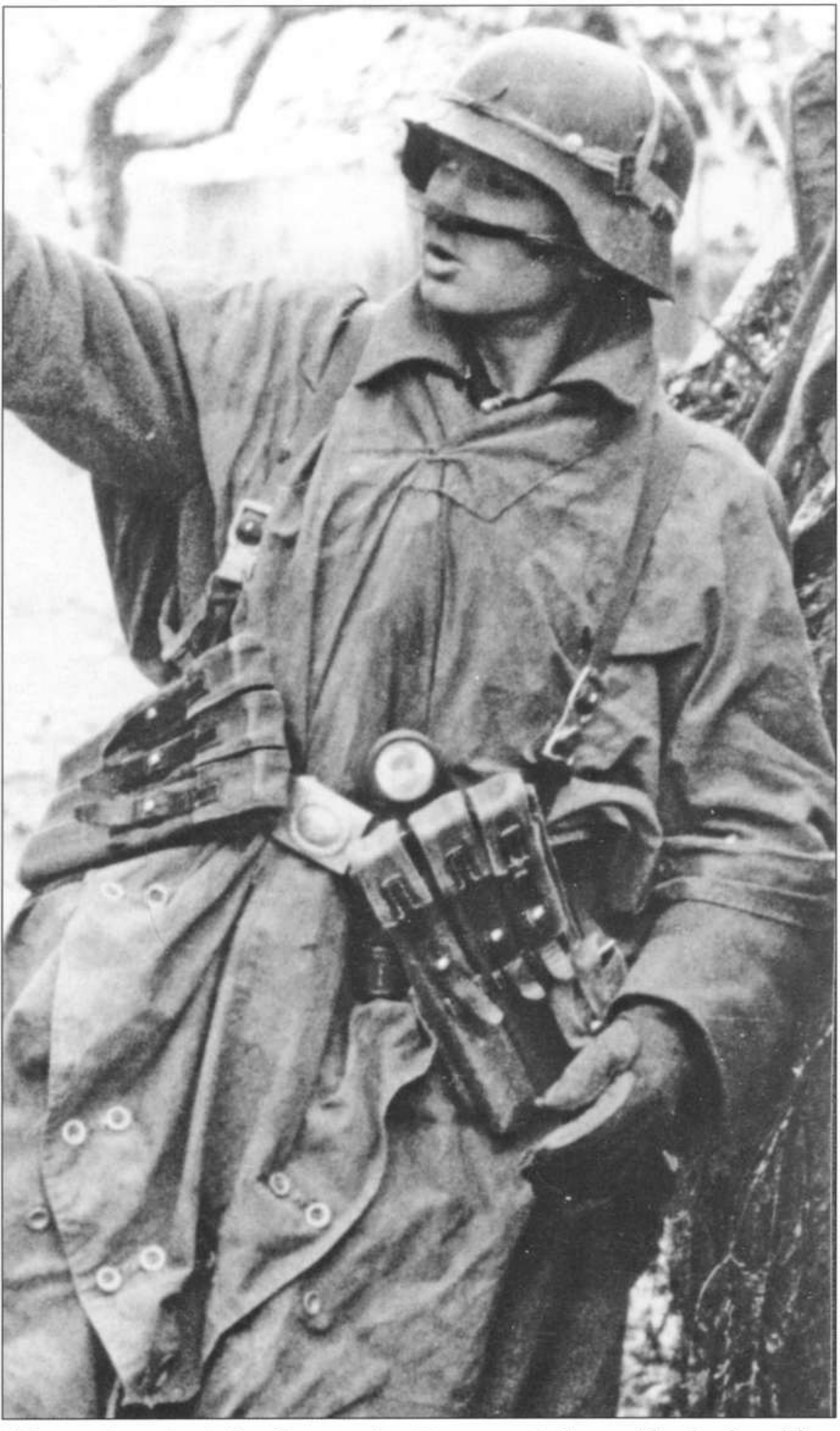
This interior view shows that the gas mask carry strap is laced through the chinstrap bales of the helmet liner as a way of anchoring it to the helmet shell.



The right side of this Q-66 no-decal helmet shows how the gas mask strap is tightly tied.

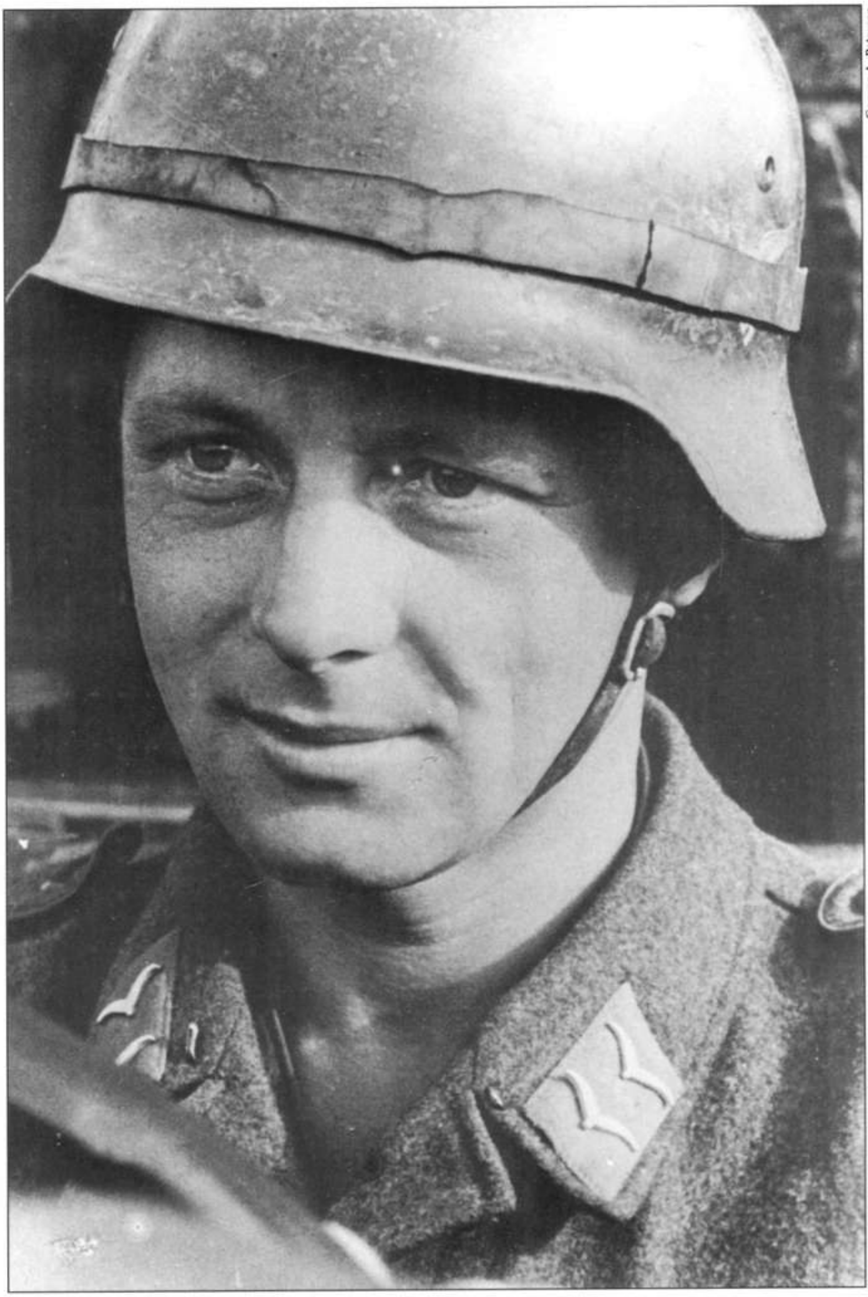


This detail photo shows that the end stud of the chinstrap has been replaced by the larger end stud of the gas mask carry strap. Normally the collector must look with skepticism at any helmet that is modified by such simple means as the modification may well have taken place long after the war. In this case, the use of the large stud and the dry stiffness of the leather chinstrap lend credibility to this being an authentic period fix. Consider that at the time of the installation of this over-sized end stud, the chinstrap strap must have still retained the pliability of new leather.



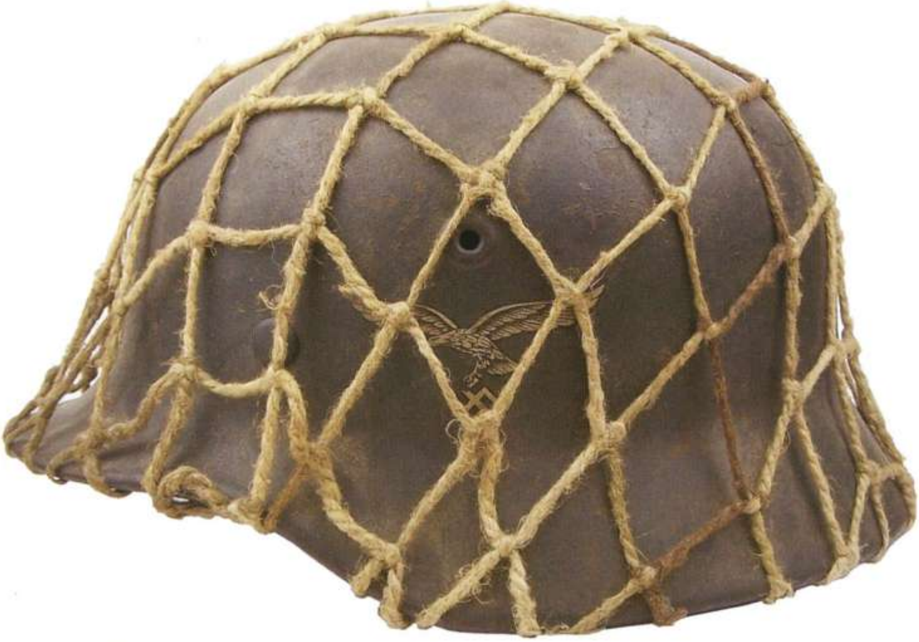
George A. Petersen

This member of a *Luftwaffe* ground unit appears to have utilized a bread bag shoulder strap on his helmet to apply camouflage material.

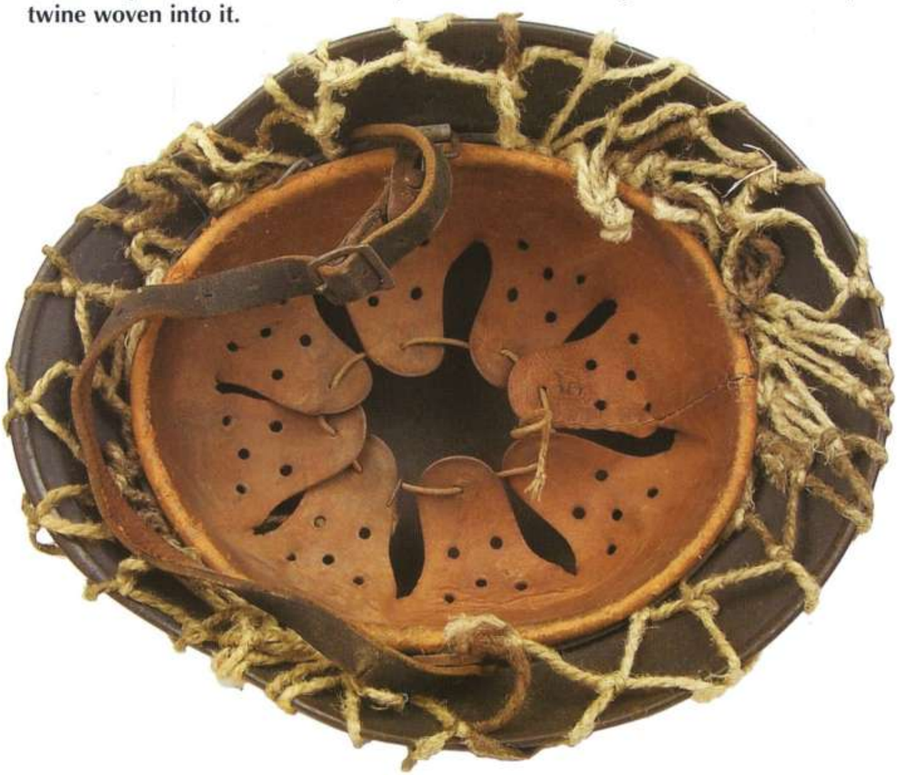


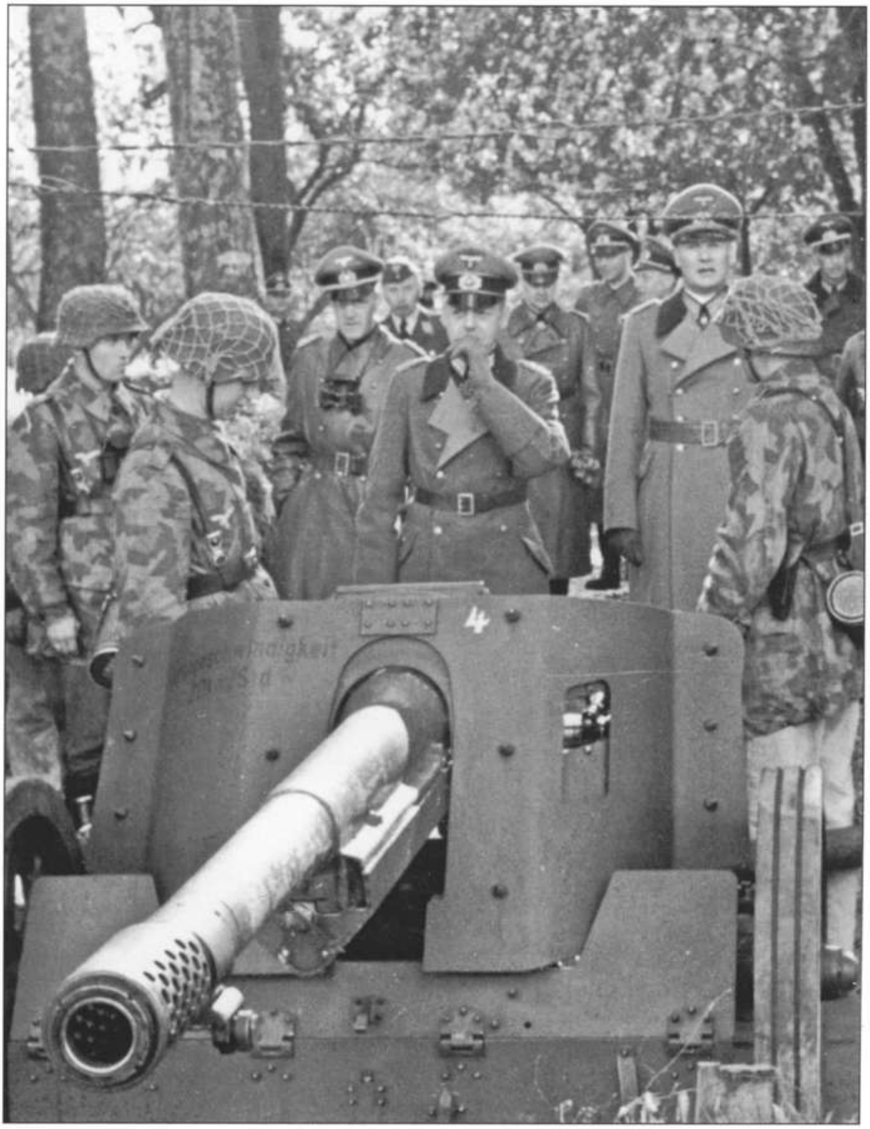
George A. Petersen

Cut-up inner tubes were also an expedient often used for adding foliage.



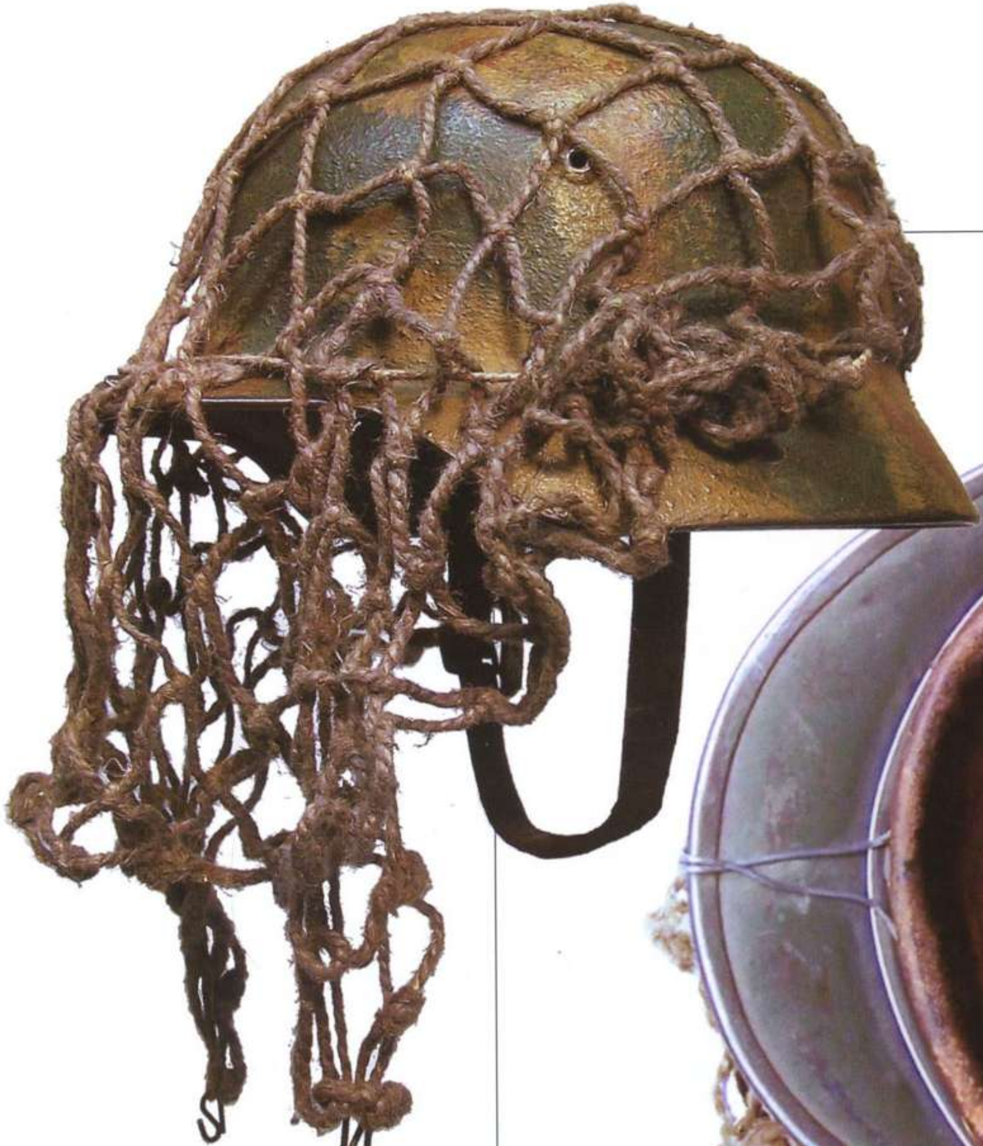
Although original photographs often show a variety of nets used for camouflaging helmets (a great many are captured allied helmet nets), there was only one net actually issued by the *Wehrmacht;* a woven net made from natural tan colored hemp material which is mostly observed with a single strand of brown dyed twine woven into it.



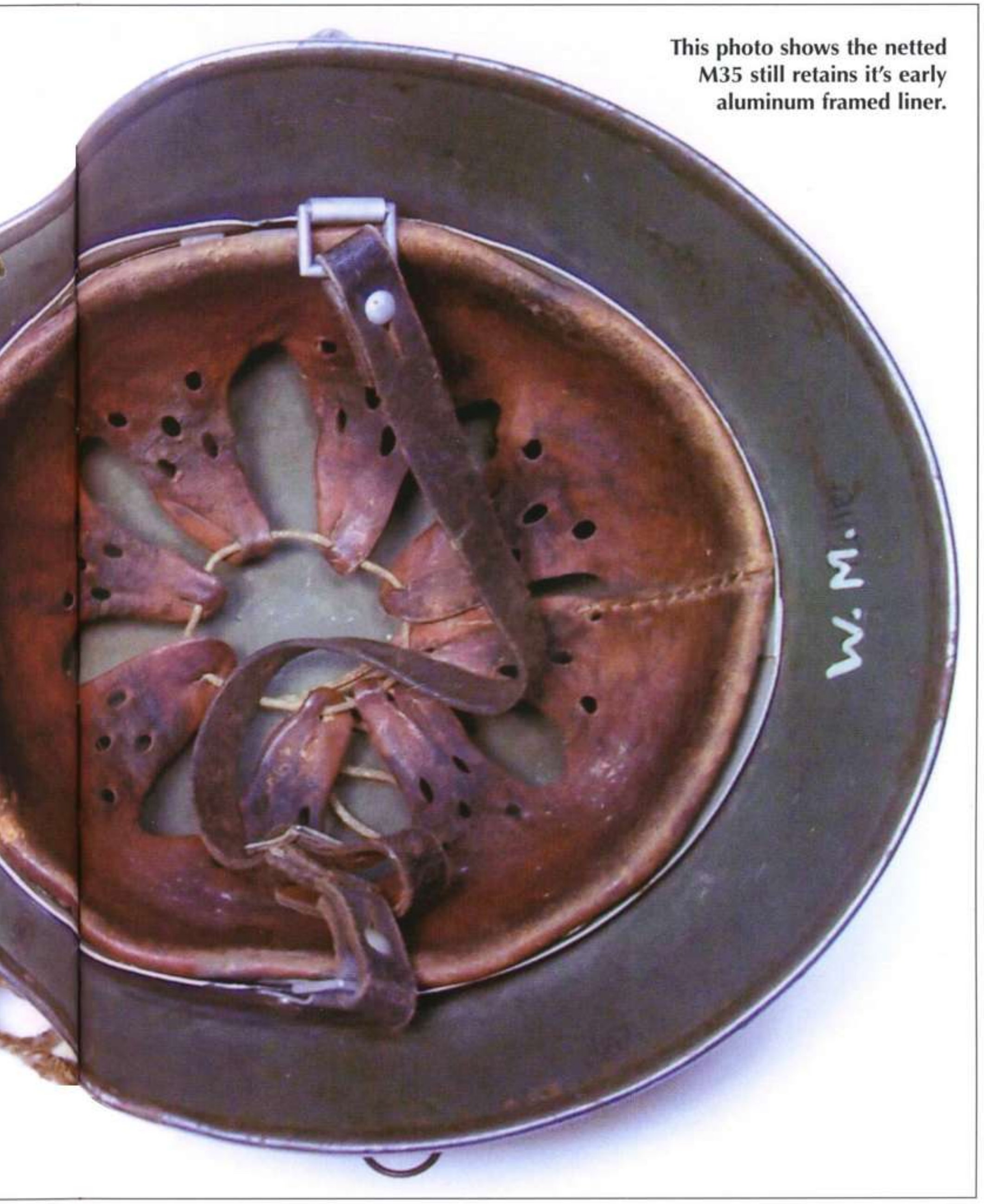


Field Marshal von Rundstedt inspects the *Luftwaffe's* 17th Field Division in France, 1944. A Pak 97/38 is in the foreground.

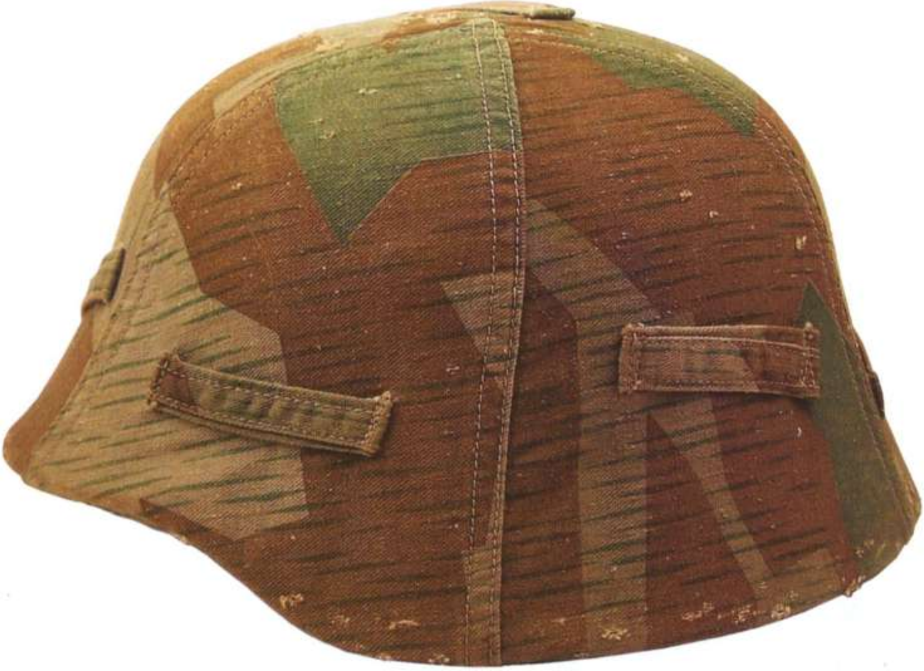
This photo shows that the excess netting was gathered and tucked up between the liner and the shell of the helmet.



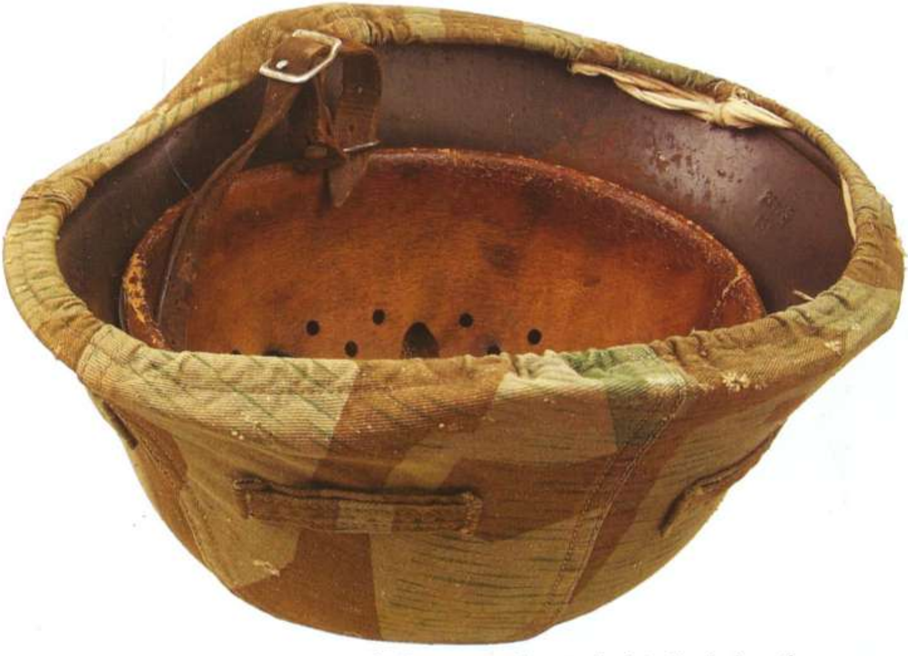
This M35 *Heer* helmet has been brush-painted in green and tan. The netting is the standard issue type with a drawstring and two attached hooks for suspending the face mask portion over the top of the helmet. (K. Kithier)



This photo shows the netted M35 still retains it's early aluminum framed liner.

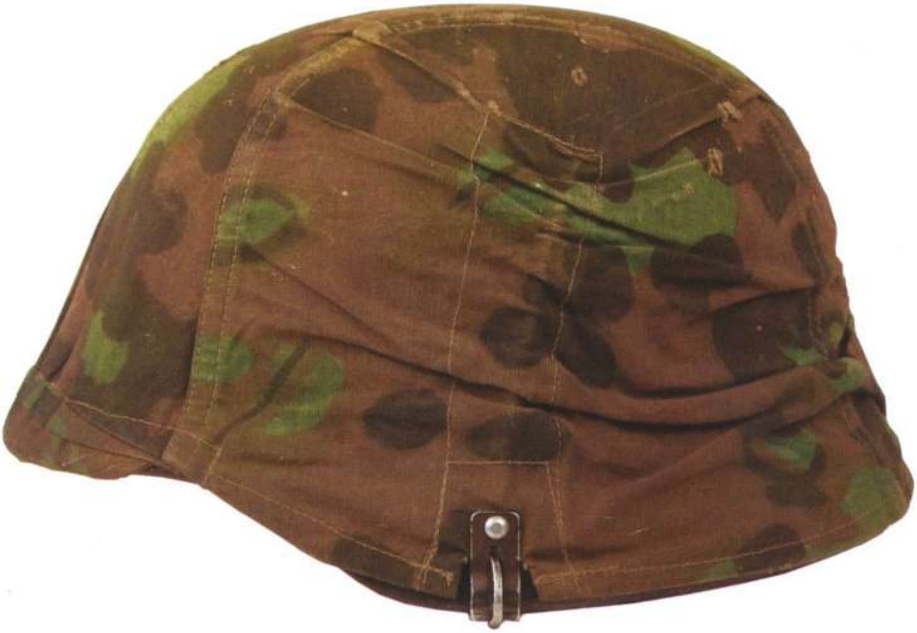


This is an example of the standard *Wehrmacht* issue splinter-pattern helmet cover. The material is reversible to white for winter wear. This helmet cover was issued to *Heer* and *Luftwaffe* units beginning in about 1942.

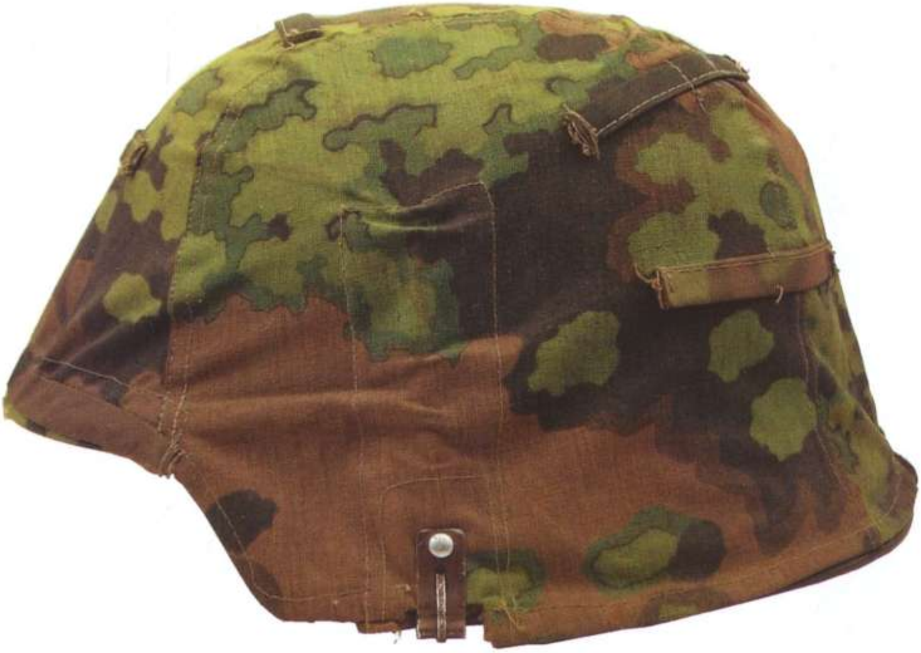


The *Wehrmacht* splinter-pattern helmet cover is attached to the helmet by means of a drawstring. This string can be either a white cotton cloth type or a sewn strap made of the same camouflage material as the cover.

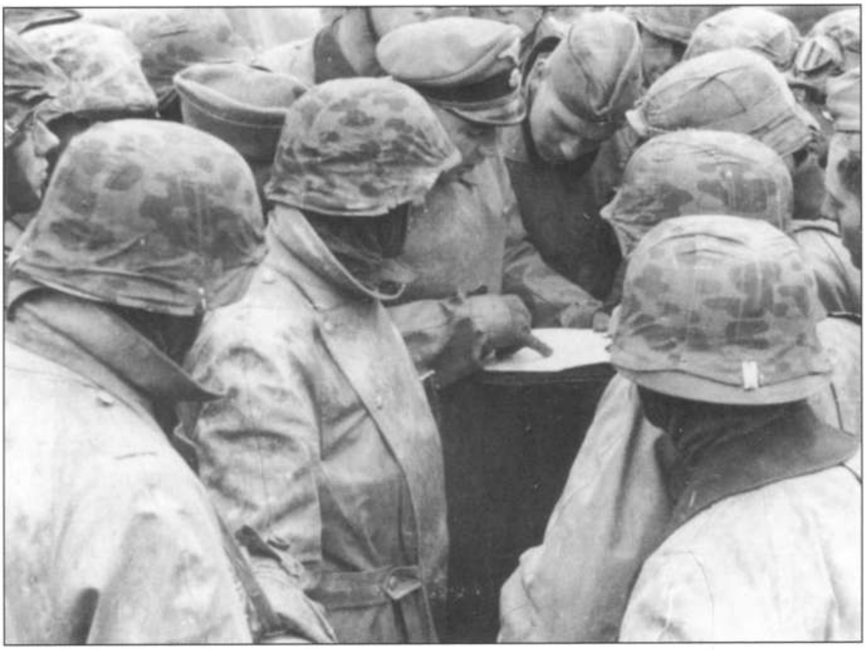
Panzer and *Sturmgeschütz* units on their way to the Normandy front on June 16, 1944.



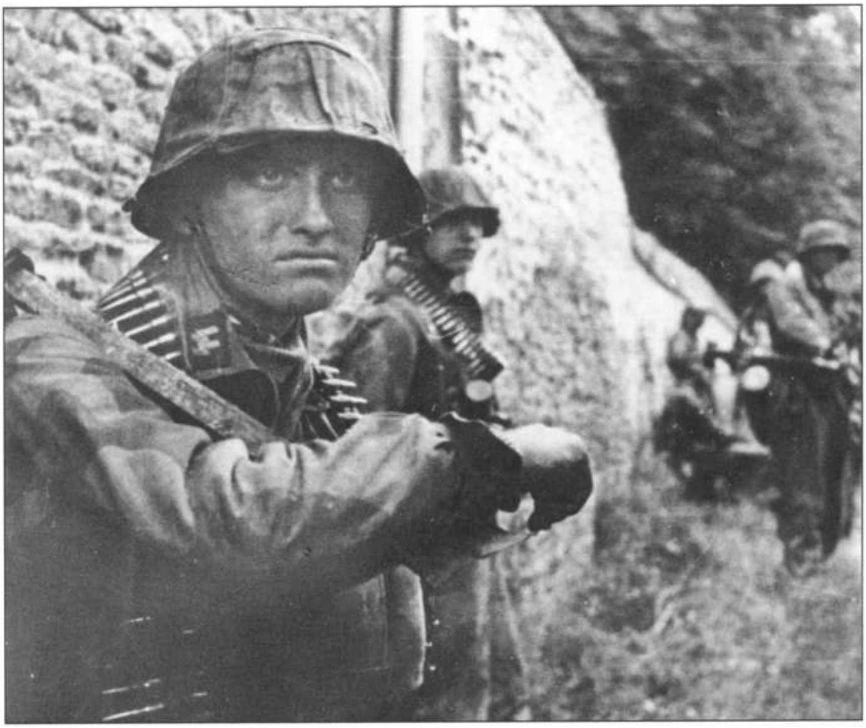
The *Waffen-SS* began issuing camouflage covers in 1938. The pattern was the same as the standard SS issue camouflage smocks. It was attached to the helmet by means of three rocker hooks. This is an example of the first model which had no attached loops. (Courtesy G. Eigenfeld)



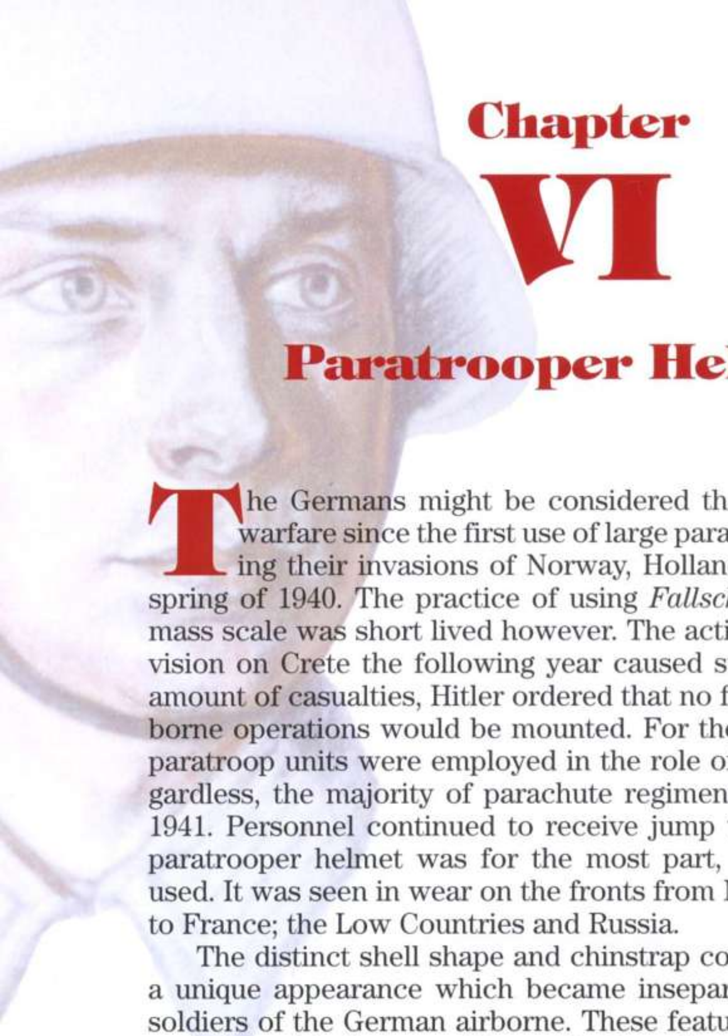
This wartime issue camouflage *Waffen-SS* helmet cover is the second pattern with attached loops for application of branches and leaves for additional camouflage.



The first pattern camouflage helmet cover in wear.



This member of the *12.SS-Panzer-Division "Hitler Jugend"* wears the second pattern cover with attached loops, Caen, 1944.



Chapter VI

Paratrooper Helmets

The Germans might be considered the fathers of airborne warfare since the first use of large parachute forces was during their invasions of Norway, Holland and Belgium in the spring of 1940. The practice of using *Fallschirmjäger* units on a mass scale was short lived however. The actions of the 7th Air Division on Crete the following year caused such an extraordinary amount of casualties, Hitler ordered that no further large scale airborne operations would be mounted. For the duration of the war paratroop units were employed in the role of regular infantry. Regardless, the majority of parachute regiments were formed after 1941. Personnel continued to receive jump training and the M38 paratrooper helmet was for the most part, the standard helmet used. It was seen in wear on the fronts from North Africa and Italy to France; the Low Countries and Russia.

The distinct shell shape and chinstrap configuration produced a unique appearance which became inseparably associated with soldiers of the German airborne. These features as well as the association of the helmet with an elite branch of service has made the paratrooper helmet a particularly sought after item among the collecting community.

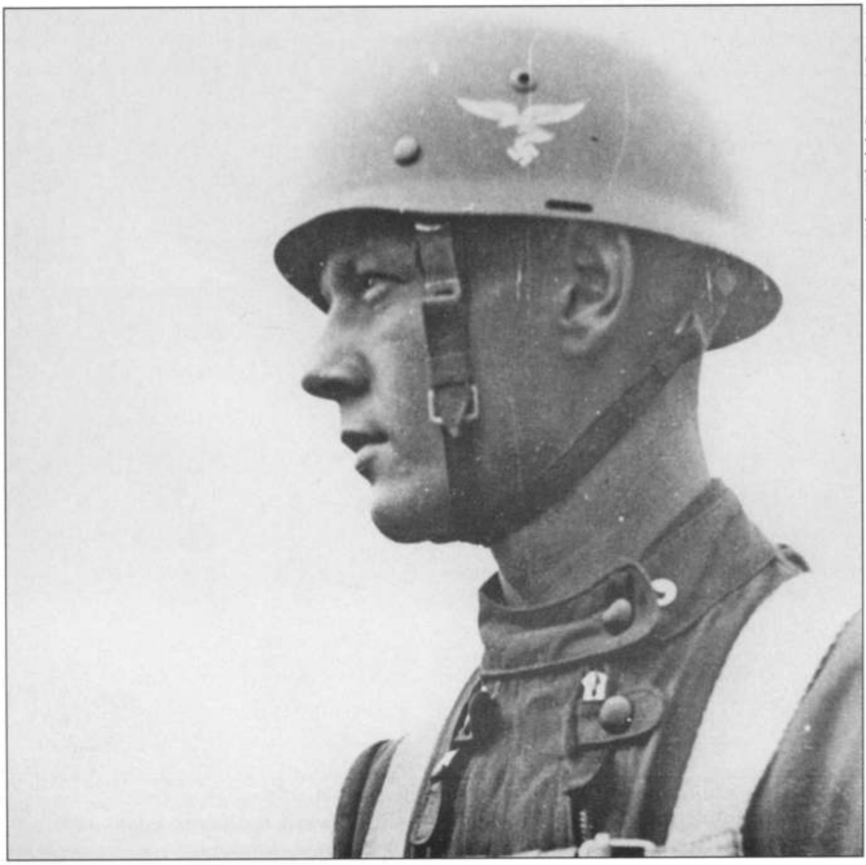
The airborne arm of the German Armed Forces was instituted in early 1936 and both the Army and Air Force formed parachute units for which new combat headdress had to be designed. By all accounts, the first parachute helmets utilized by this new branch of service were M35 models which had been modified by shortening the skirts. By 1936 the first model paratrooper helmet was designed and issued to units of both the *Heer* and *Luftwaffe*. During the first two years of production the parachute helmet underwent significant changes as will be illustrated in this chapter.

Paratrooper helmets were worn by both *Luftwaffe* and *Heer* formations in the pre-war years. In January of 1939, the Army parachute units were incorporated into the *Luftwaffe* and the issue of helmets with *Heer* insignia was halted. During the war special airborne units of the *Waffen-SS* were organized and personnel were equipped with helmets from *Luftwaffe* stocks.

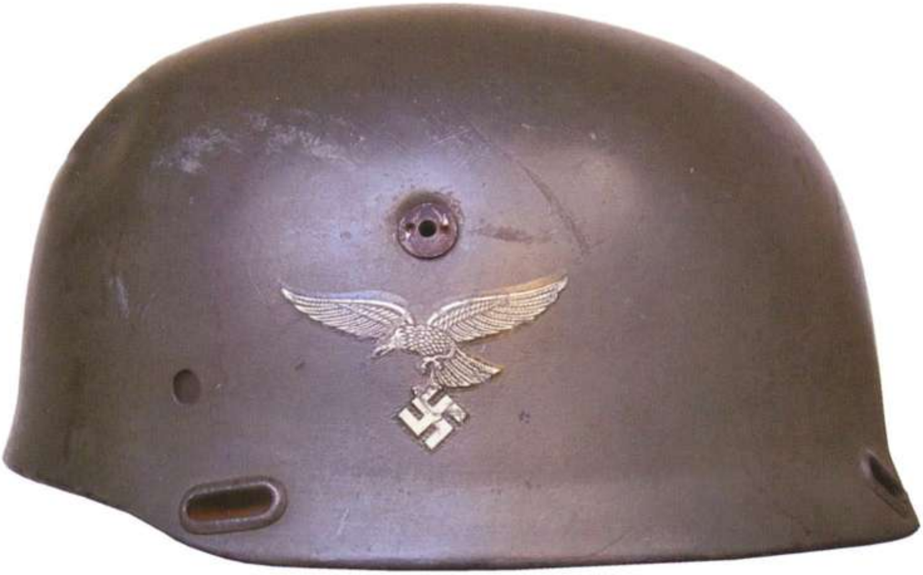
The Eisenhutten plant at Thale was, from the beginning to the end, the sole producer of the German airborne helmet. Helmets were produced in three standard shell sizes; shell size 66 (liner sizes 53, 54, 55); shell size 68 (liner sizes 56, 57, 58) and shell size 71 (liner sizes 59,60,61). In rare instances, oversized M38 helmets were produced in a shell size 73. (Presumably to accommodate liner sizes 62, 63 and 64)

The helmet shell had the steel lot number stamped into the rear rim. These numbers ran sequentially from the mid 3000 range in 1938 until the low 5000 range in 1940-41. After that time, as with the lot numbers found on standard ET produced combat helmets, a second series of sequential numbers began in the two-digit range and continued to rise until the end of production. (See Appendix 5 for further information on lot numbers.)

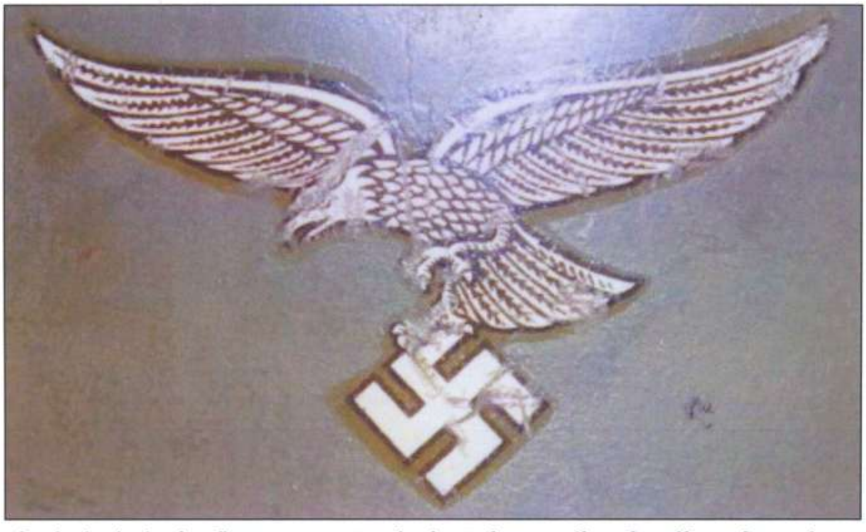
Although the steel lot numbers run in the same sequence as those found on standard model ET helmets, far greater gaps are observed. This is a logical consequence of the fewer number of helmets contracted and longer periods between individual contracts as certainly the number of helmets required for the airborne troops never came close to the numbers produced for ground forces.



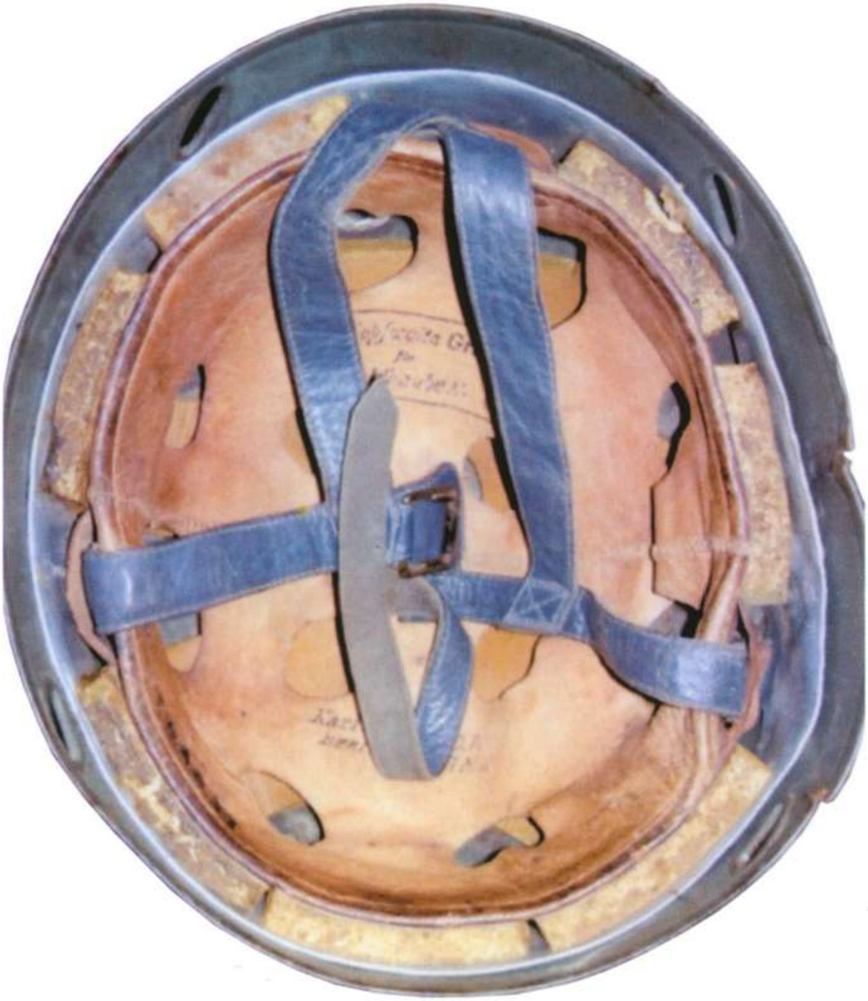
(Helmet Weizel via George A. Petersen)



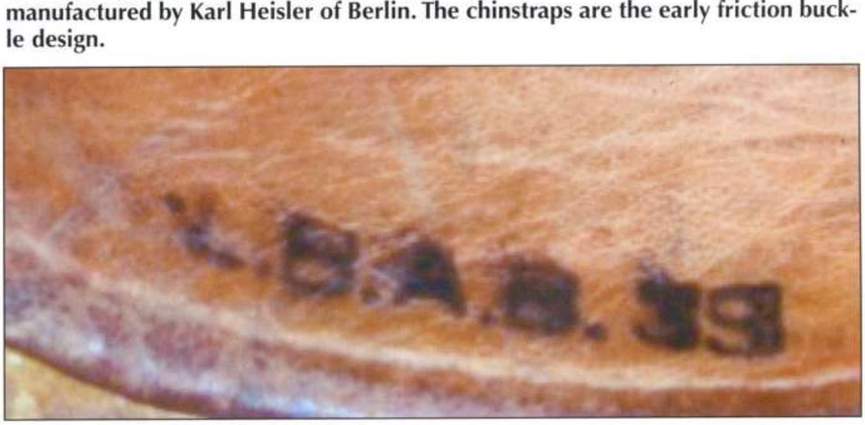
The Model 36 was the first helmet produced for use by the parachute units. It is most noticeable by the four slots found (two on each side) on the helmet shell which were intended for the chinstrap arrangement. This example is one of a few known in collections world-wide. This helmet has been period modified to accept the second pattern liner which was retro-fitted to earlier shells. The original liner was attached via three M-31 style split-rivets in the same fashion as standard M-35 helmets. The second model liner is attached by four retaining bolts, the side bolts being inserted through the holes left by the removal of the M35 style air-vent bushings. Note that the original liner suspension rivet hole is left empty. (Private collection)



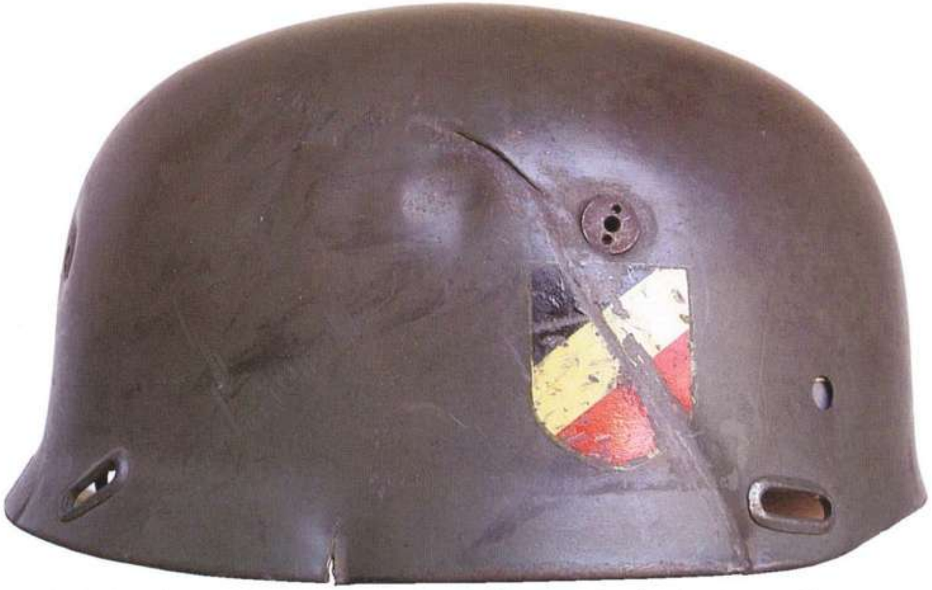
The insignia is the first pattern "snake-leg" droop-tail *Luftwaffe* eagle. (Private collection)



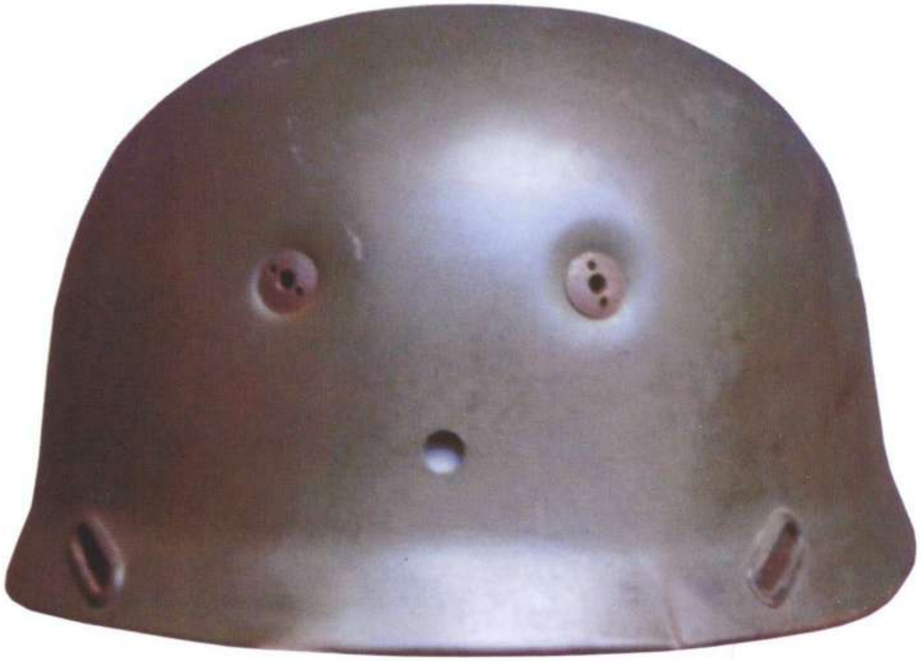
The liner system has been upgraded by being fitted with the second pattern type manufactured by Karl Heisler of Berlin. The chinstraps are the early friction buckle design.



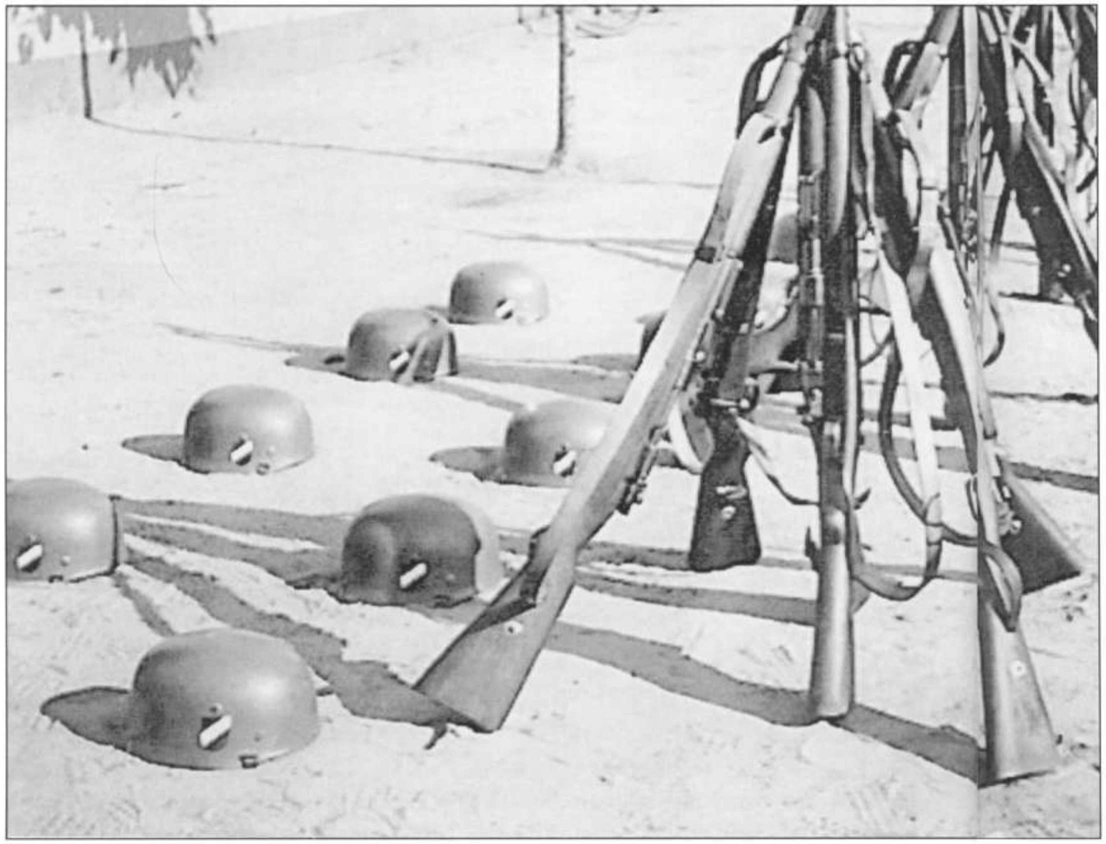
The liner is marked with a 1939 dated *Luftwaffe* acceptance stamp indicating a probable date of the liner system upgrade.



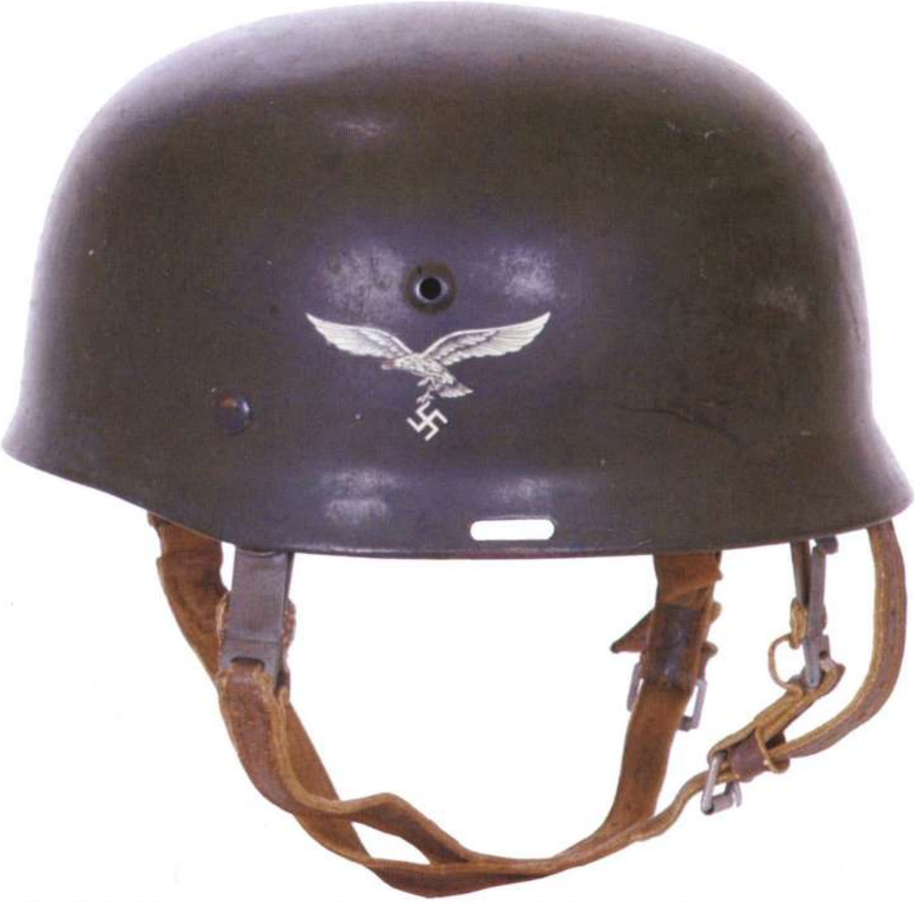
This helmet has suffered damage to the shell as a result of action in Narvik, 1940. (Private collection)



This rear view of the Model 36 *Springerhelm* shows the placement of the slots for the earlier first style liner. The hole at center is from the original three-rivet liner retaining method as seen on standard helmets. The bolts which retain the second pattern liner are installed through holes added at the time of the liner upgrade. (Private collection)

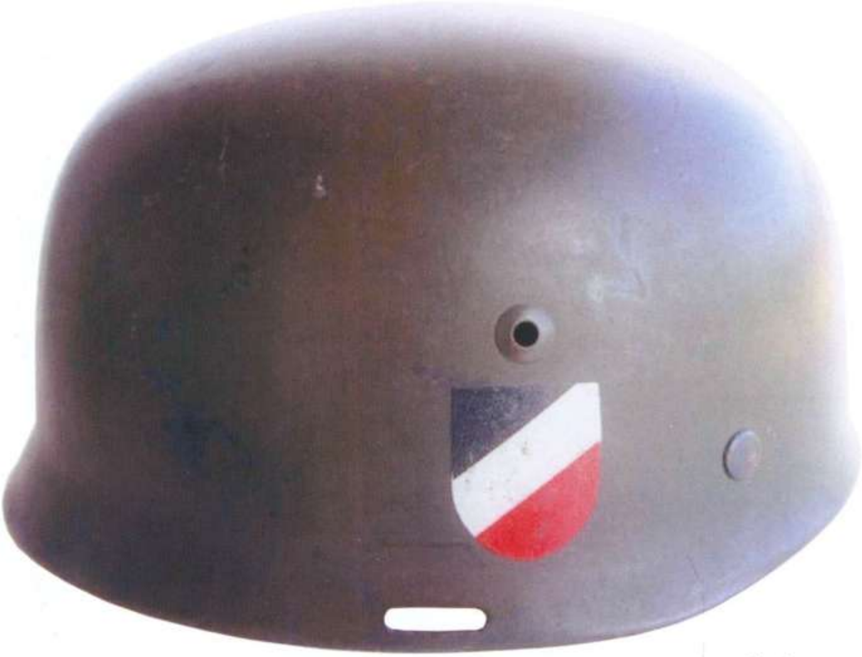


This photograph shows a number of M36 paratrooper helmets laying on the ground for an equipment inspection. Each of these helmets appears to still retain the first pattern liner/chinstrap assemblies. (Courtesy E. Queen)

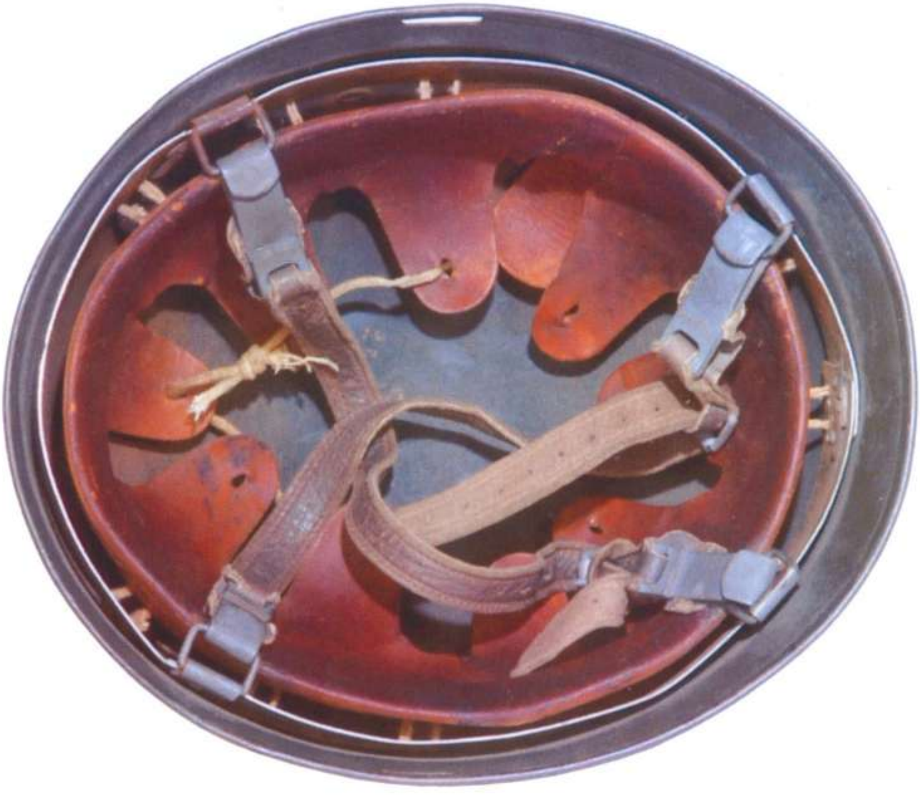


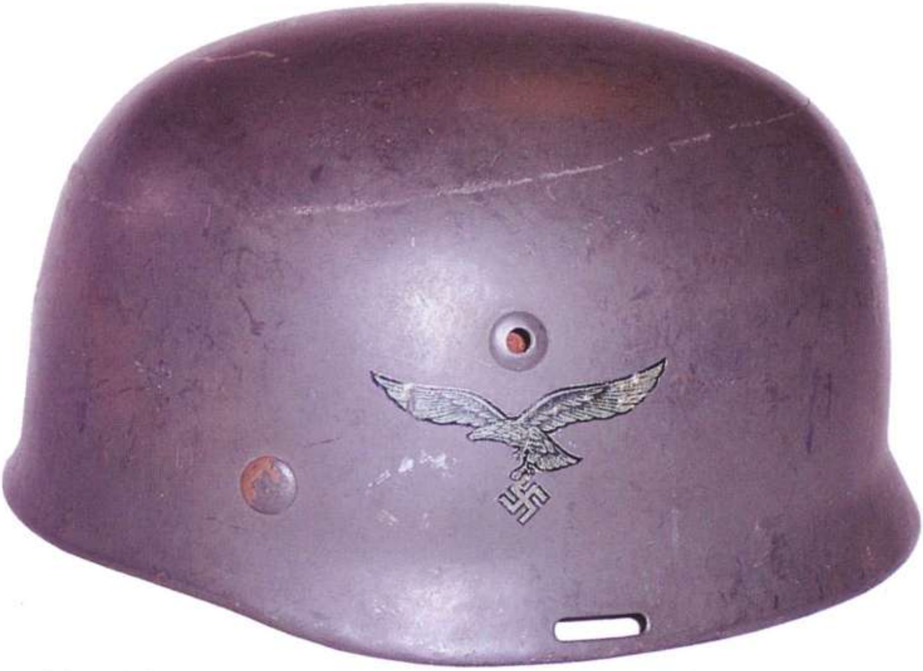
The M37 helmet represented the second step in the evolution of the German paratrooper helmet. As with the M36 helmet (as originally issued), the liner suspension was attached via three M31 style split-rivets and the helmet shell had M35 style air-vent bushings at the sides. This helmet is finished in smooth texture *feldgrau* paint with a "second pattern" eagle decal. (Courtesy Bill Shea)

This photo shows one of the few original first pattern liners known to exist. (The majority were upgraded after the introduction of the M38 with its second model liner.) The straps are equipped with quick-detach carbine hooks on all four points at which they connect to the liner D-rings. Originally there was a padding material between the liner frame and the leather but this has disintegrated from age. (Courtesy Bill Shea) ➧

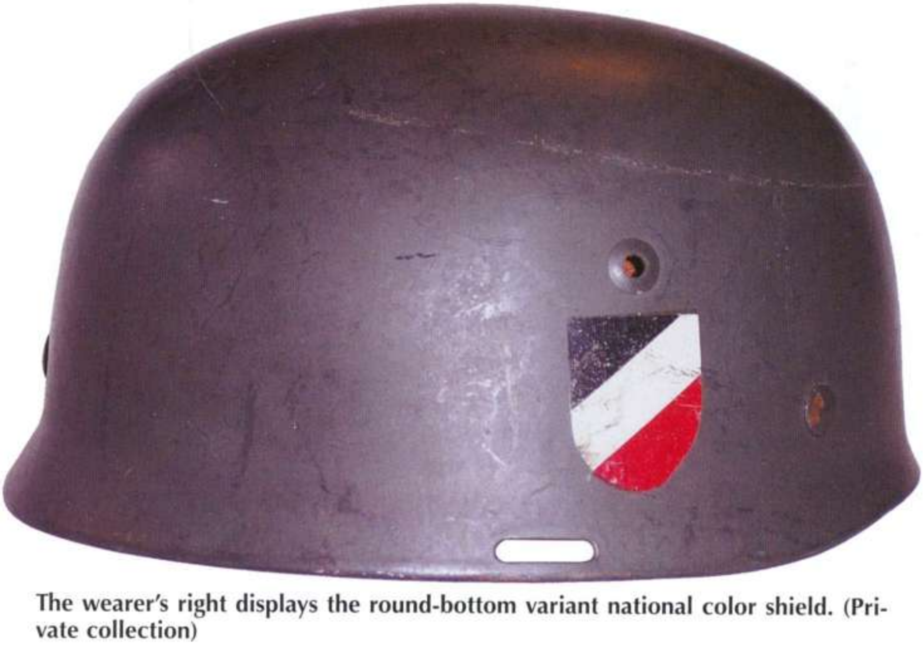


The right side has a variant round-bottom shield applied. (Courtesy Bill Shea)

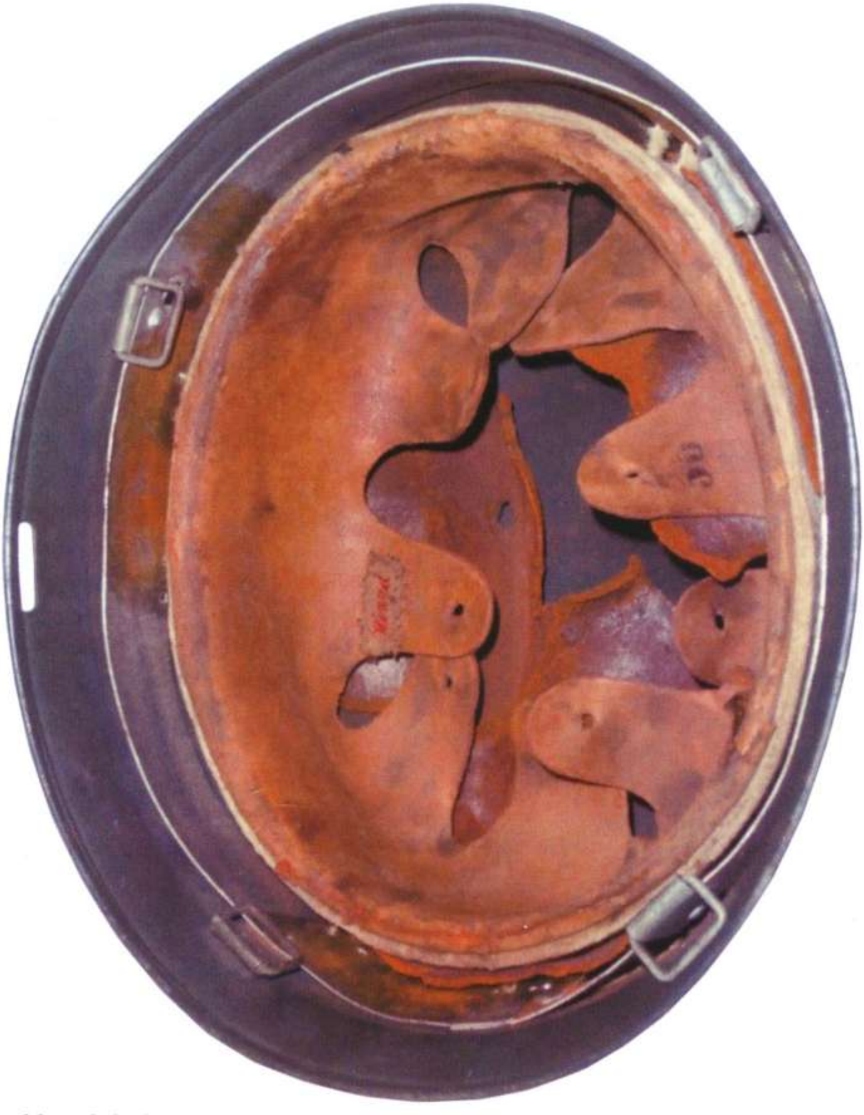




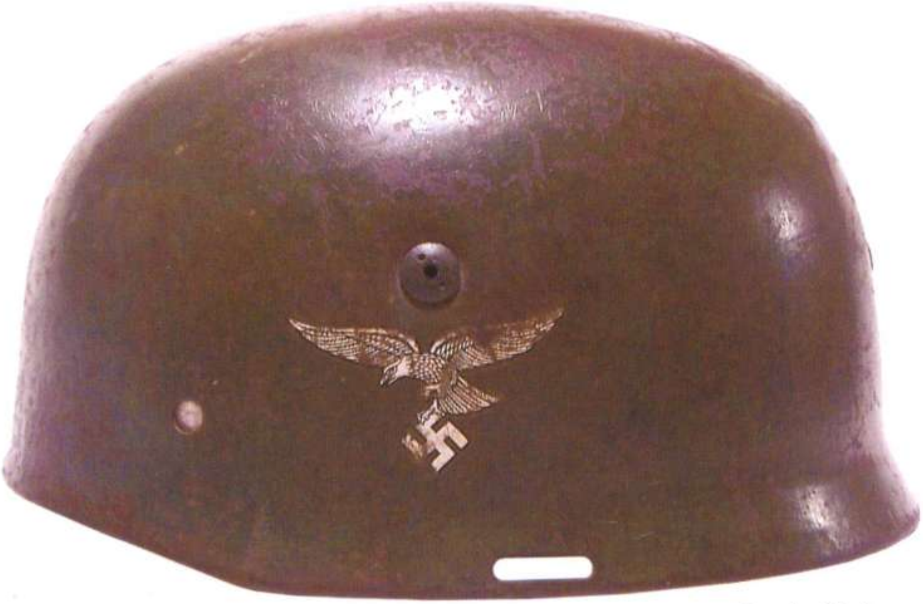
This Model 37 paratrooper helmet has been factory finished in *Luftwaffe* blue-grey paint with variant decals applied on both sides. From the beginning of production, the vast majority of paratrooper helmets was issued in *feldgrau* paint and it is not known why this particular example bears this color. The blue-green eagle decal is one which is normally found in ca. 1940 produced helmets or reissues. Its presence on such an early helmet is an unexplainable anomaly. (Private collection)



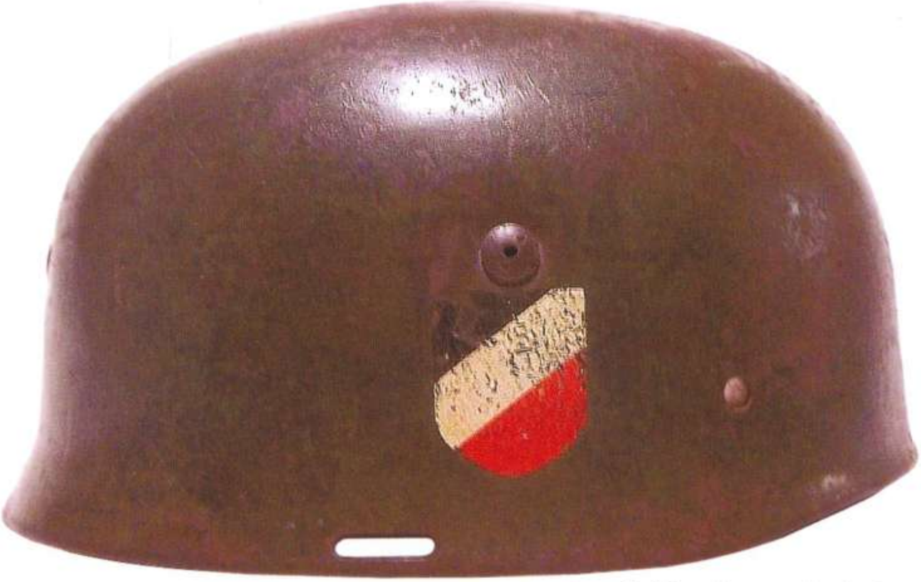
The wearer's right displays the round-bottom variant national color shield. (Private collection)



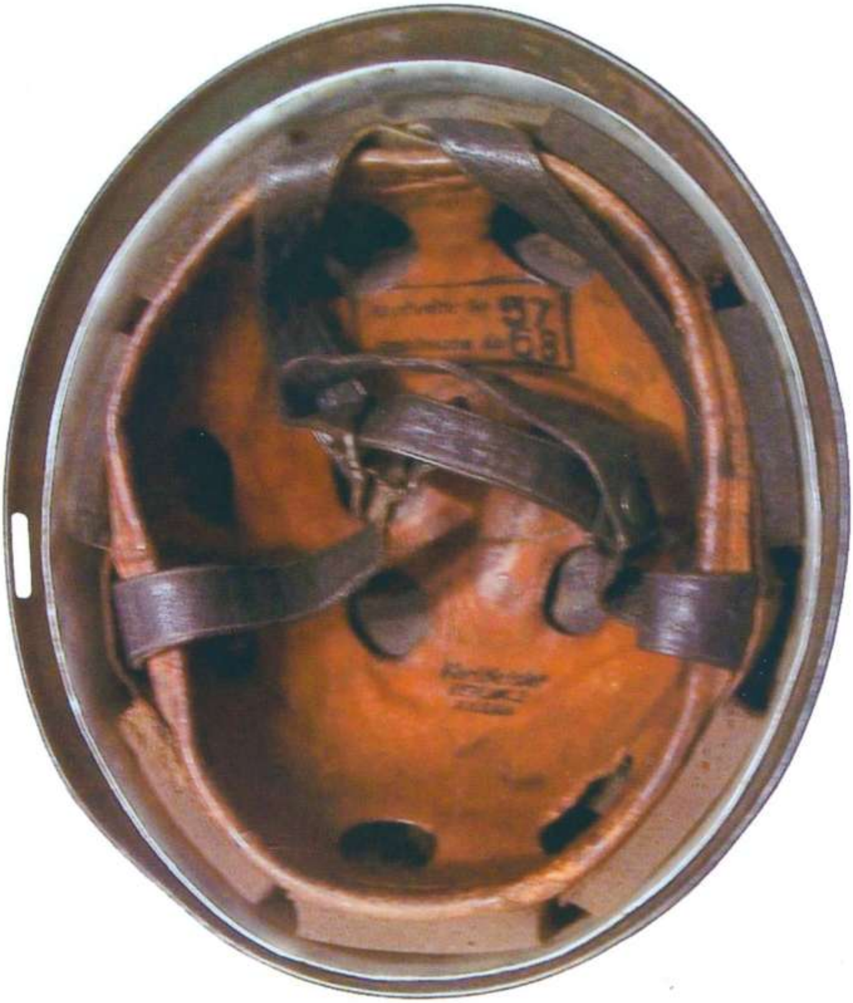
Although lacking its chinstrap assembly, this helmet still retains its original first pattern liner. There are also portions of the padding material that once encircled the leather inner liner but as in the case of the previous M37 helmet, are literally disintegrating from age. (Private collection)



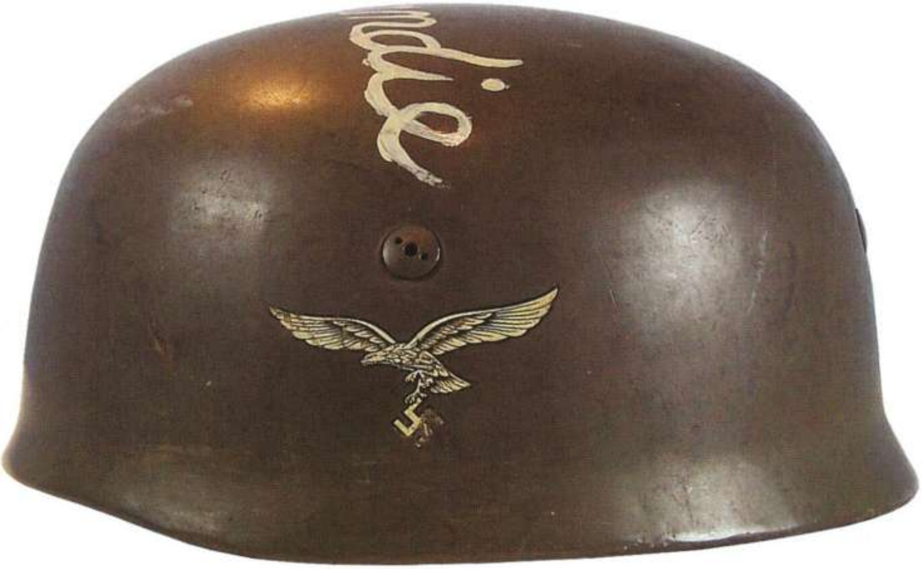
The exterior of this M37 helmet shows that the shell has been retro-fitted with the second pattern liner assembly. Note the original liner retention rivet holes are left empty and the second pattern liner bolts have been placed through the air-vents. The lot number found inside this helmet dates the shell to 1937 and it is adorned with the early pattern "droop-tail" *Luftwaffe* eagle. (Private collection)



This right side view shows the expected national color shield. (Private collection)

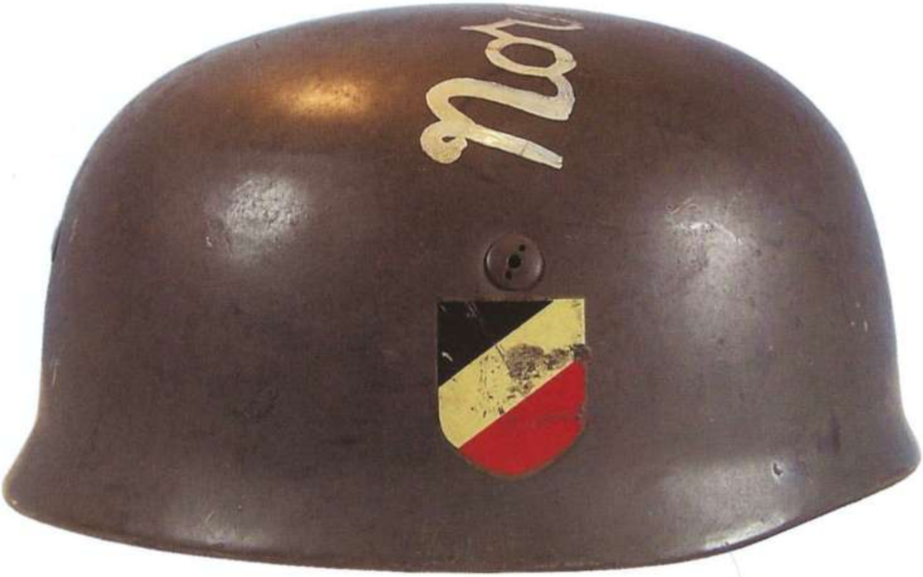


The liner assembly of this M37 helmet is the second pattern type which has been installed to upgrade the helmet. The chinstrap is the wartime version which replaced the earlier friction buckle type. (Private collection)

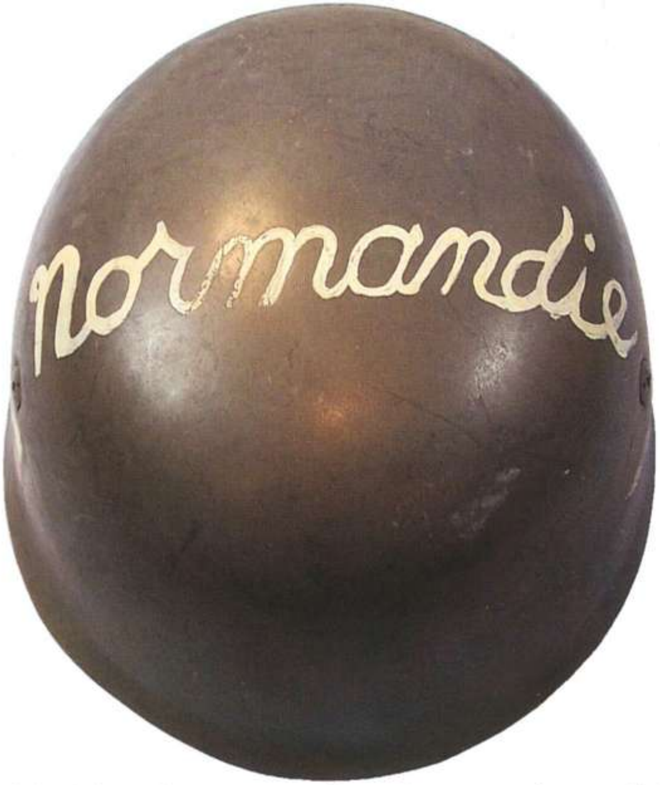


The M38 helmet is the last major modification of helmets issued to paratroop units. The shell was factory produced with four holes through which the vented spanner bolts were placed to retain the second pattern liner system. This 1938 dated helmet was factory finished in smooth texture paint with both the *Luftwaffe* eagle and national color insignias. It was apparently captured in Normandy indicating that it remained in service until June 1944 without having been modified to meet wartime specifications regarding paint and decals. (Courtesy R. Richter)

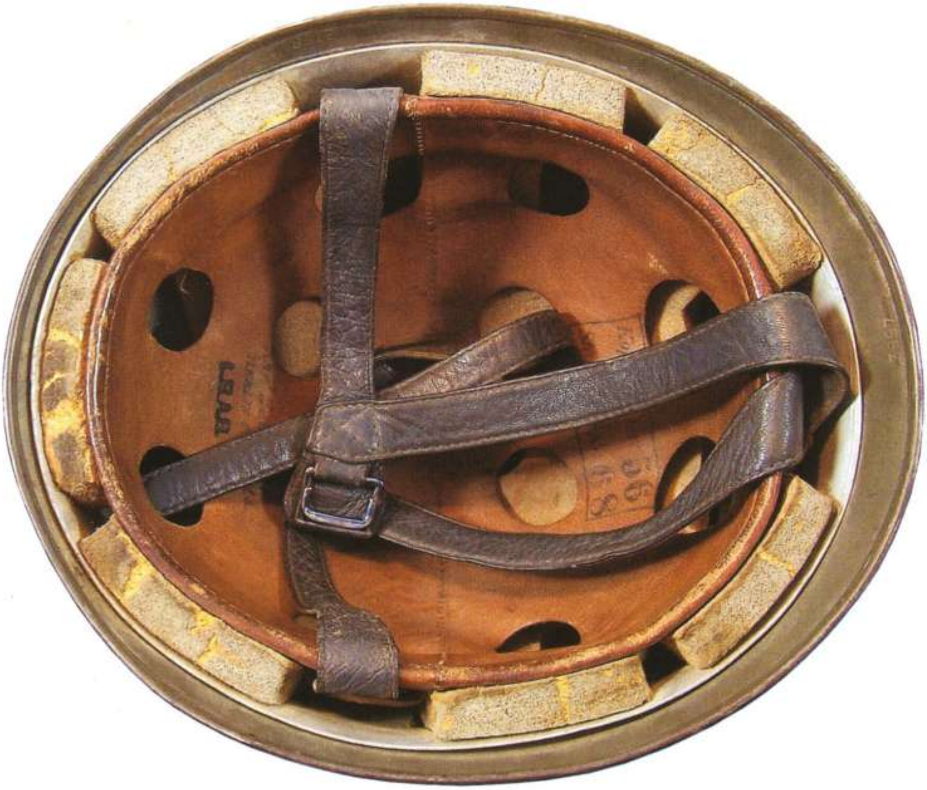
Fallschirmjäger march in Hitler's 50th birthday parade, April 20, 1939.



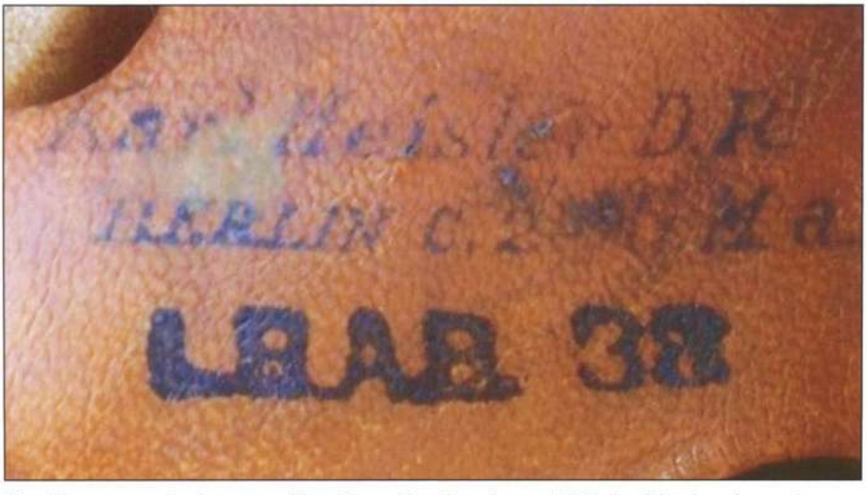
Right side view displaying the national color shield. (Courtesy R. Richter)



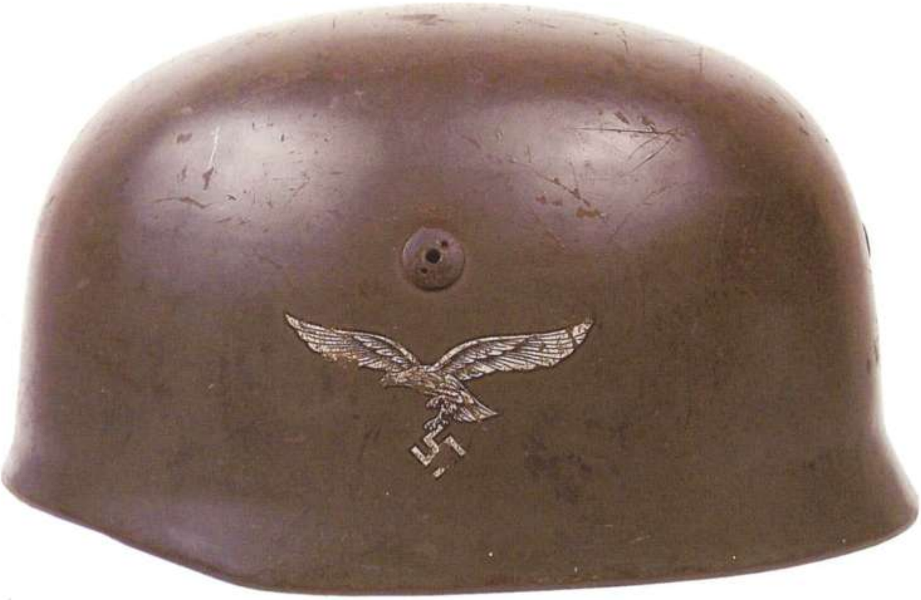
This view of the helmet shows "Normandie" written across the top of the shell. Note that it is written in French rather than the English "Normandy." (Courtesy R. Richter)



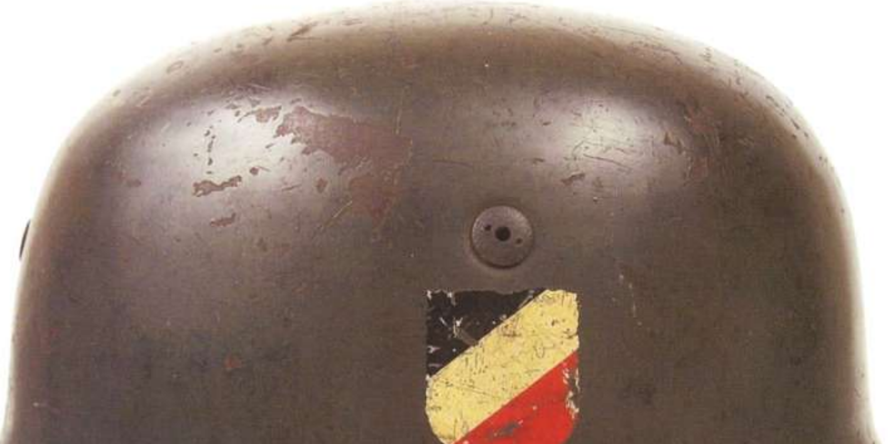
This interior photo clearly shows the early characteristics of the liner and chinstrap. Note the tan colored padding between the leather liner and the shell. This type of padding indicates early liner manufacture and is found in most pre-1940 assembled M38 helmets. (Courtesy R. Richter)



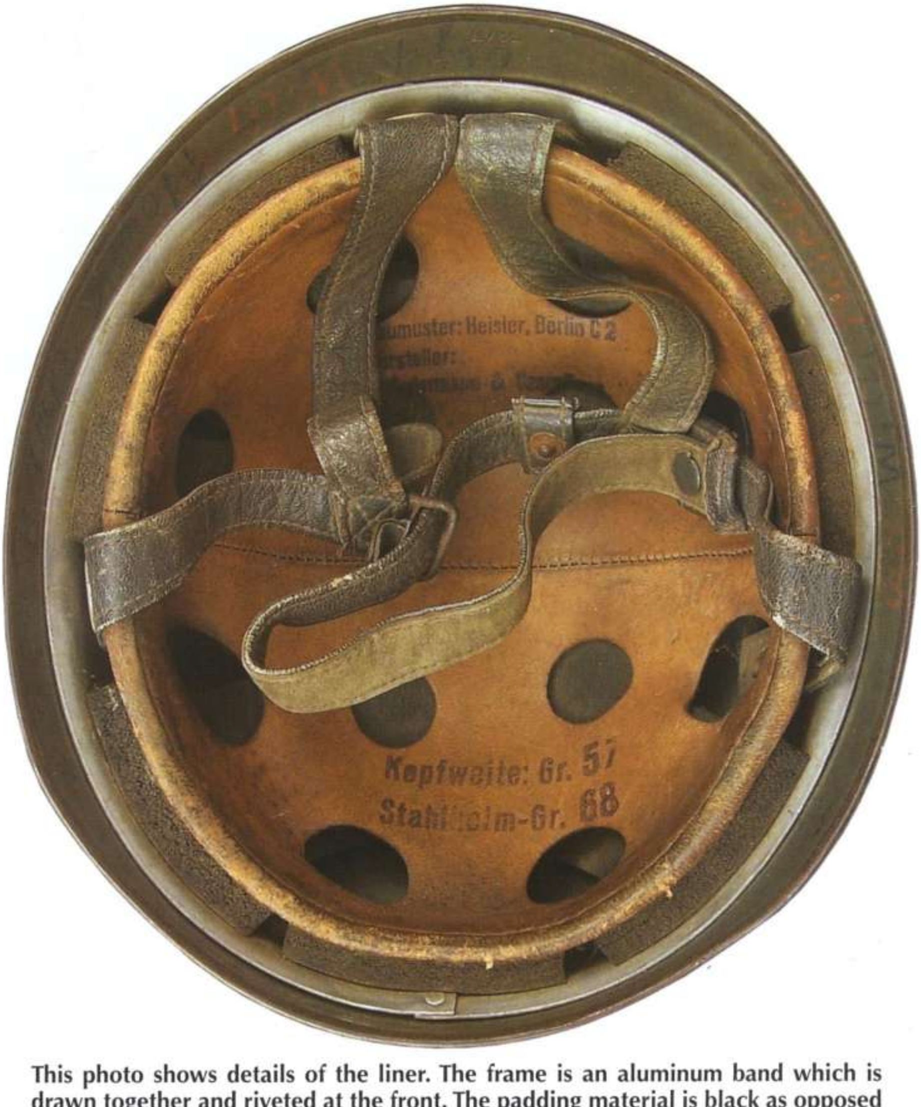
The liner manufacture marking found in the above M38 double decal paratrooper helmet. Note the *Luftwaffe* property stamp along with the acceptance date of 1938. This property mark is seldom found in wartime produced helmets. (Courtesy R. Richter)



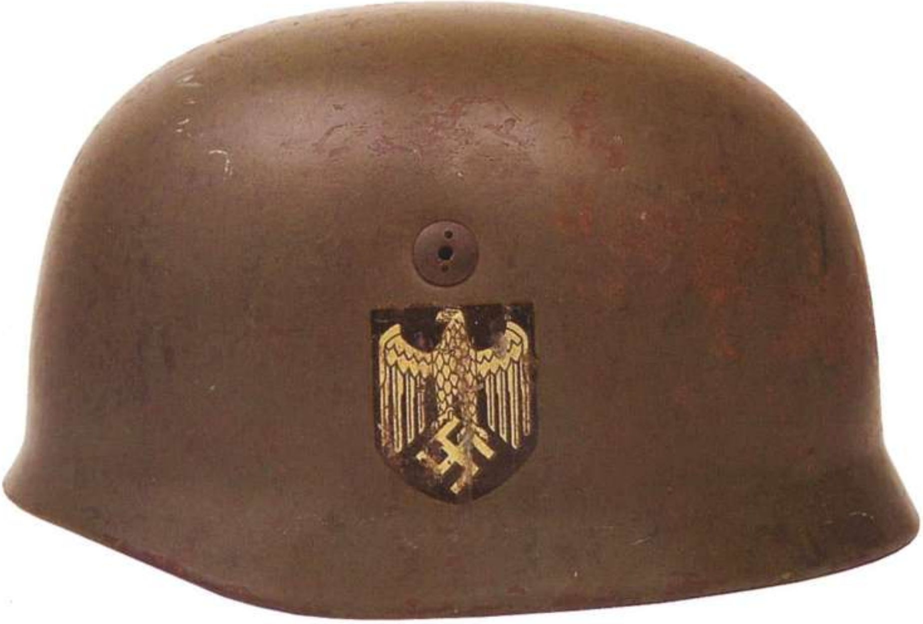
Another pre-war produced M38 helmet shell with a second pattern eagle decal. (Courtesy G. Eigenfeld)



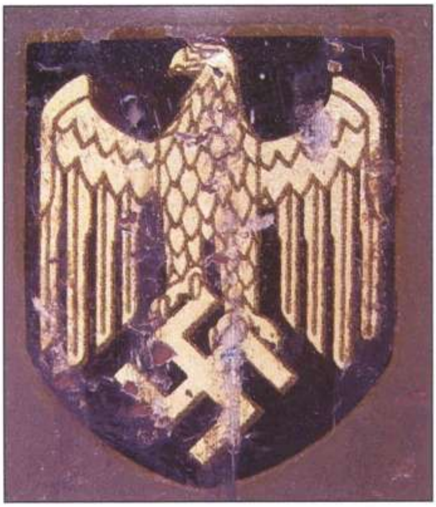
This right side view shows the national color shield and further displays such early features as the smooth texture *feldgrau* paint and early matching liner retaining bolts. (Courtesy G. Eigenfeld)



This photo shows details of the liner. The frame is an aluminum band which is drawn together and riveted at the front. The padding material is black as opposed to the tan color found on earlier specimens. (Courtesy G. Eigenfeld)

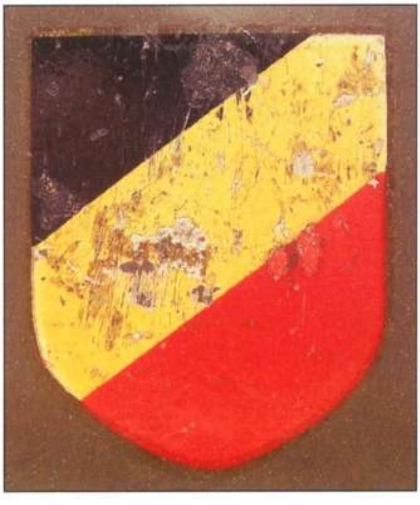


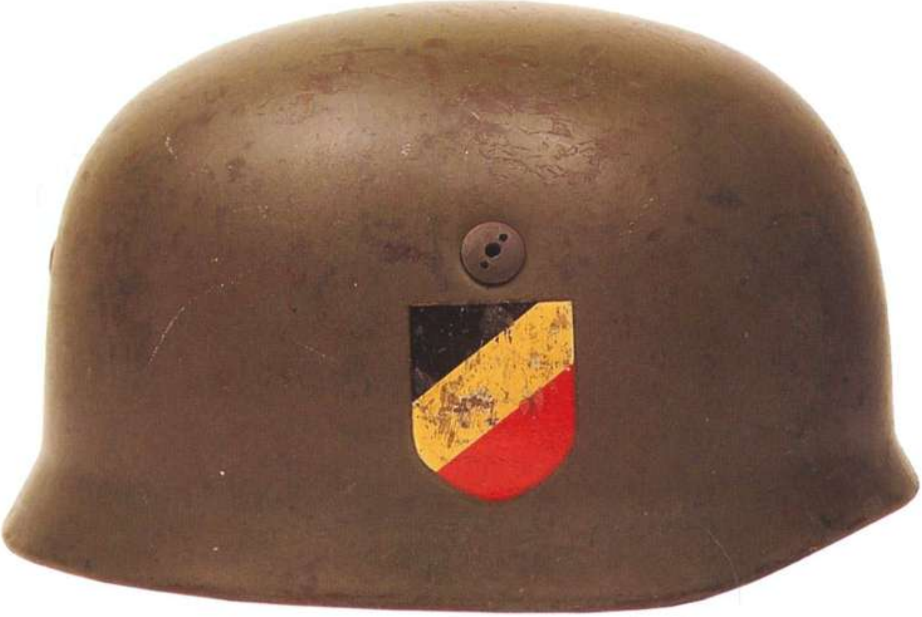
This is an example of the M38 helmet worn by paratroopers of the *Heer* before they were incorporated into the *Luftwaffe.* (Courtesy R.Church)



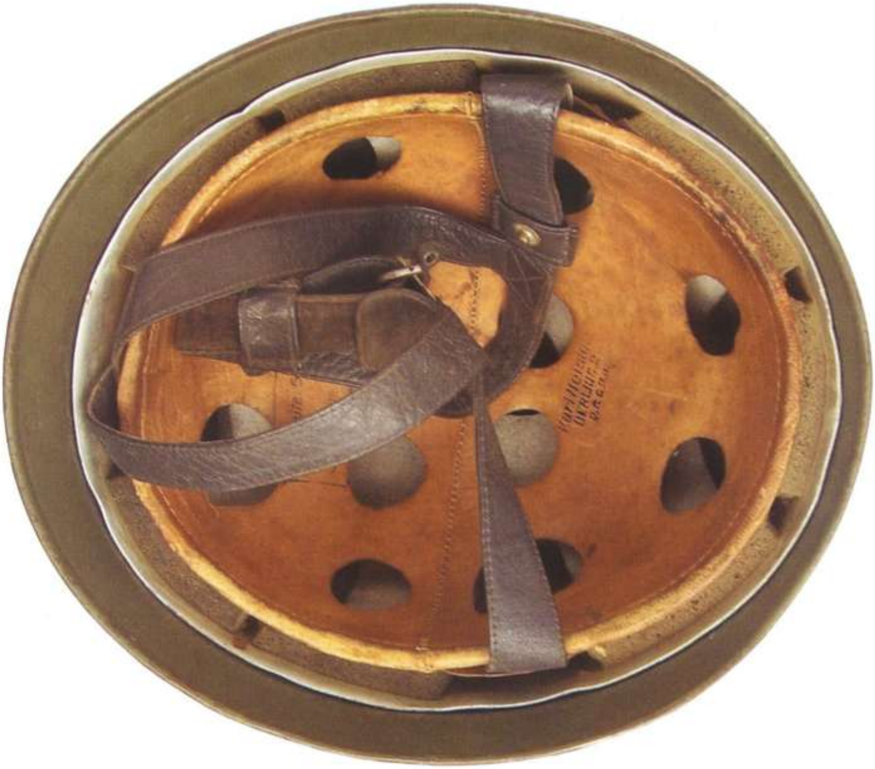
The decal found on this *Heer* paratrooper helmet is the same pattern seen on standard M35 helmets of ET production. (Courtesy R. Church)

The national color shield shows the outlines of the factory applied lacquer coating. (Courtesy R. Church)





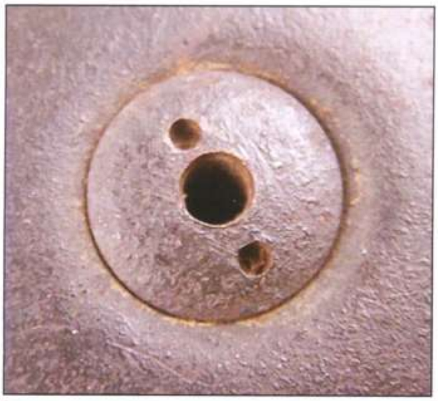
The national color side. (Courtesy R. Church)



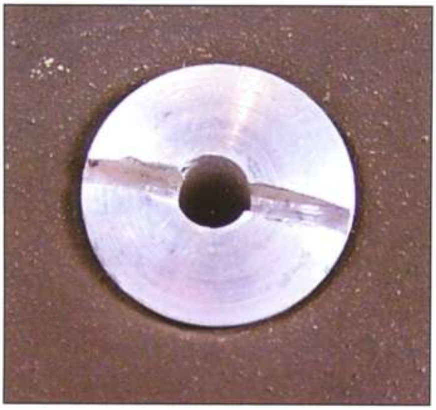
The liner assembly is framed with an aluminum band and has the later style black padding material. The chinstrap is the later version. (Courtesy R.Church)

Paratrooper Helmets After 1940

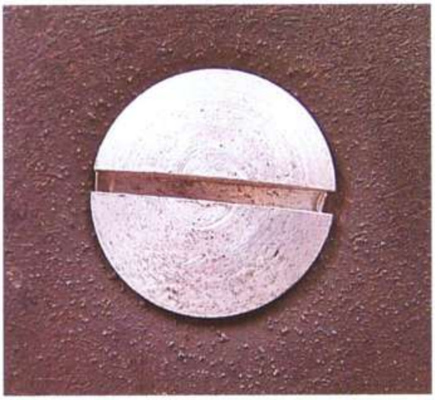
As with the standard combat helmet models, the M38 parachutist helmet underwent important changes in its appearance after 1940. The same specification changes which affected standard helmets also affected the M38, i.e., the smooth texture *feldgrau* finish was changed in favor of the rough texture, darker colored *feldgrau* and the application of the national colors shield was discontinued. Further changes appeared on the M38 during this time; the chinstrap was altered, doing away with the friction buckle and adding the snap for securing the loose end. During the war years, two different styles of liner retaining bolts appeared as replacements for the earlier vented spanner types, both made from machined aluminum. One was a simple slotted bolt while the other had a vent hole drilled through it. During the war years, the ET factory remained the sole supplier of the steel M38 helmet shell. Liner assemblies were procured from the Karl Heisler firm of Berlin and later also by the Schuberth-Werke firm in Braunschweig and the Werner Zahn leather works of Berlin.



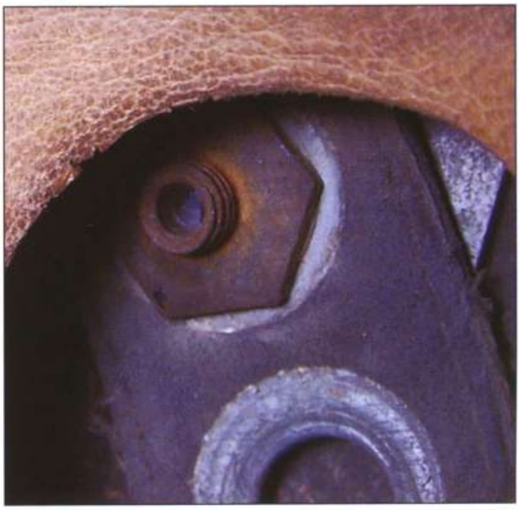
An early style vented spanner bolt is seen here installed in an M38 helmet which bears the M40 specified textured paint.



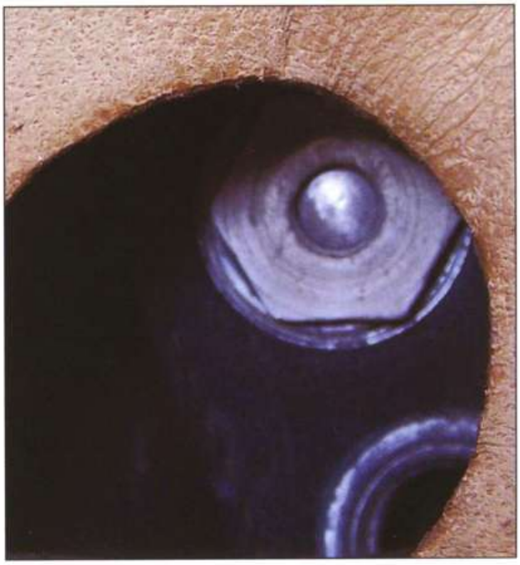
A close-up of the head of a vented slot bolt. The slot replaced the spanner arrangement as it eliminated the need for a special tool to tighten the bolts. Bolts becoming loose after extended field wear was a constant problem for the *Fallshirmjäger.*



The non-vented slot bolt shown here was less desirable among those soldiers who wore the paratrooper helmet due to the lack of ventilation in the form-fitting liner. Heat retention by the M38 helmet was a common complaint.

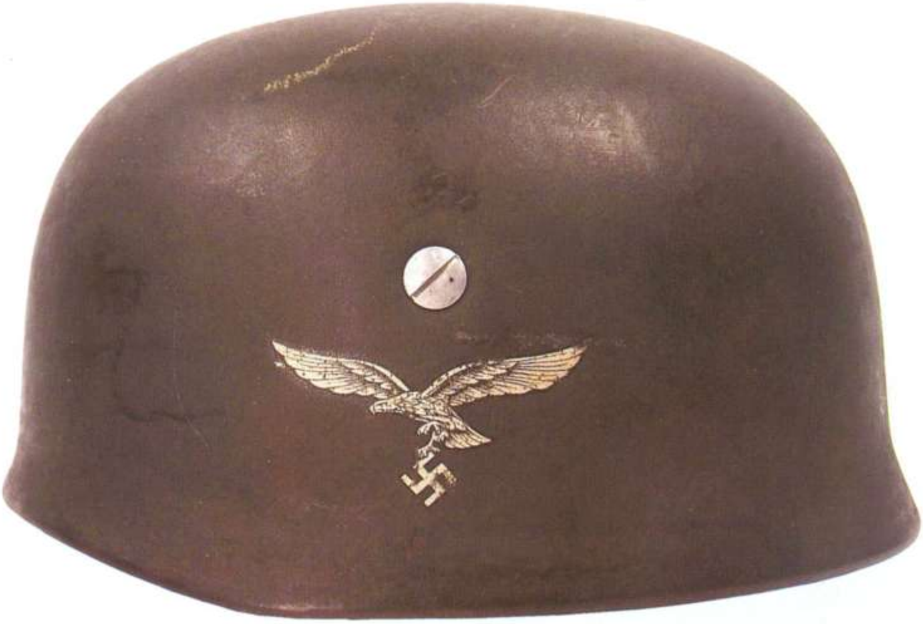


The inside view of a liner suspension retaining bolt shows the six-sided steel nut attached to the vented shaft of a steel bolt.



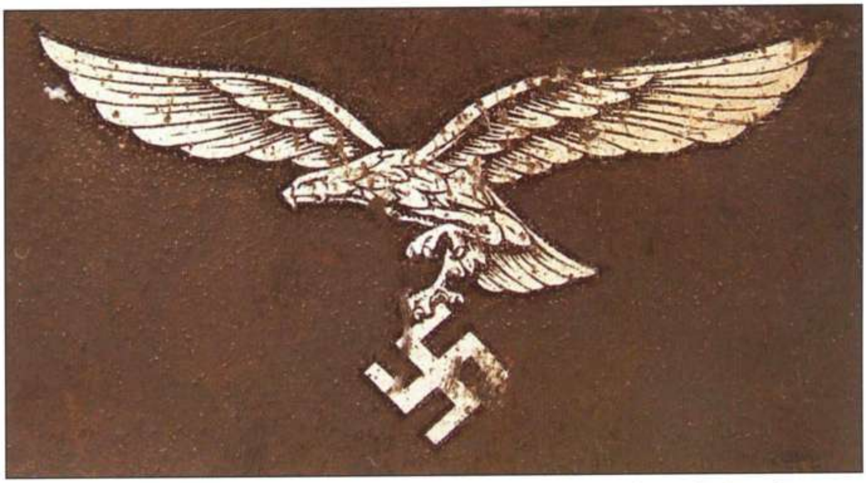
An aluminum six-sided nut secures the shaft of a non-vented retaining bolt.

Wartime M38 helmets are not as easy to date as are pre-war M38s or nearly any of the standard models. No dates are found on any of the components. Attributing the date of shell manufacture by the lot number is not as accurate a method as in the case of standard ET produced helmets. Although the shell itself may be dated by the lot number, the assembly cannot necessarily be so dated. Construction styles of liner/chinstrap components are observed in great variety notwithstanding the probable date of shell manufacture as noted by the lot number. This may indicate that in many cases helmet shells were stamped and left in storage for an indeterminate period of time before being assembled to complete the latest order from *Luftwaffe* procurement. Such a conclusion may not be unreasonable when considering again, the number of separate contracts and number of units per order of these special purpose helmets, especially when compared to the numbers of standard helmets required for ground forces.

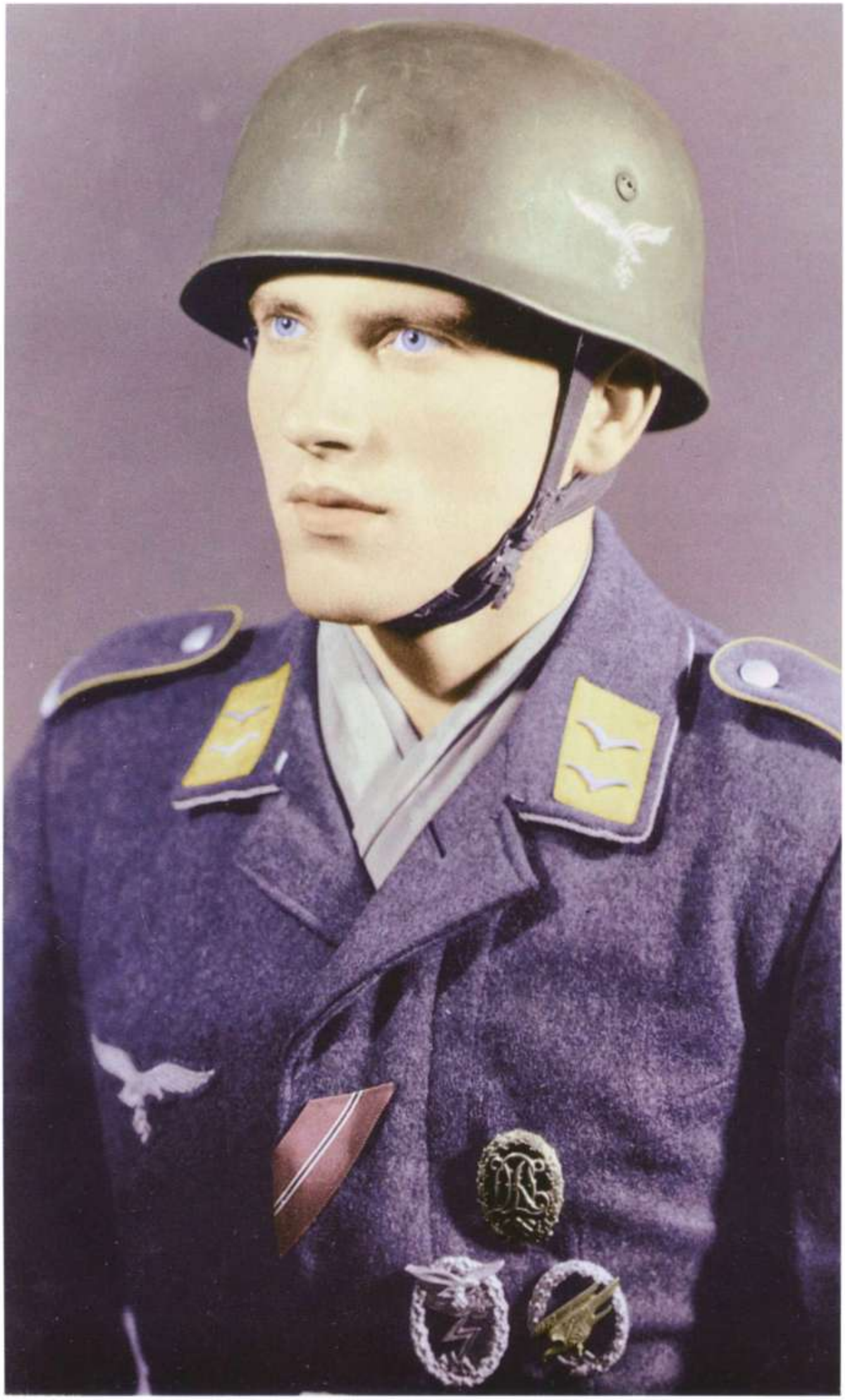


This is a typical example of a wartime produced M38 helmet. The shell is finished in textured *feldgrau*, a single *Luftwaffe* eagle is affixed at the left side and the liner retaining bolts are the non-vented slot version.

This interior photo on page 287 shows the produced zinc-metal framed liner assembly and the second pattern chinstraps. The inside of the helmet shell is finished in smooth texture paint (unlike the textured exterior paint). ➧



This "standard" pattern eagle decal is the same as those on the majority of ET produced helmets. Other than the sometimes encountered "subdued" blue or green eagle, there is little variation noticed in the eagle decals found on M38 helmets.

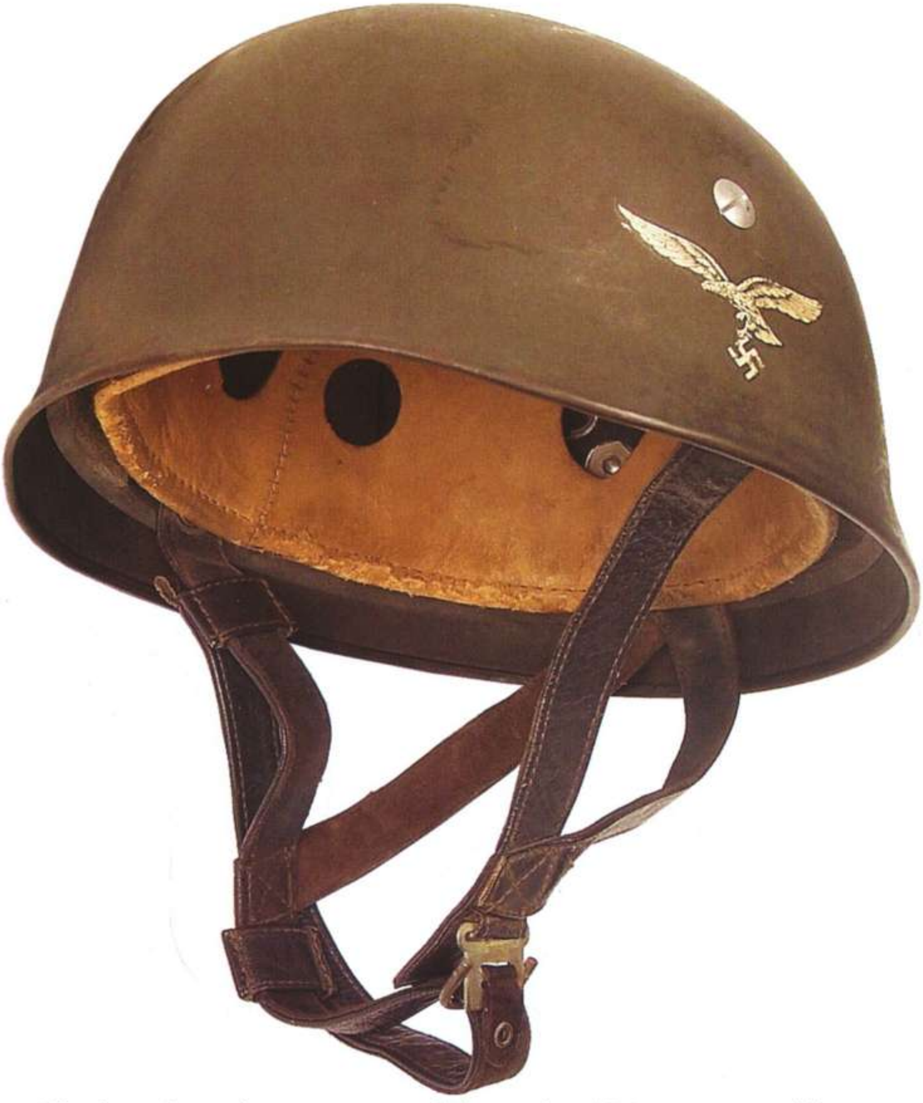


This period portrait shows a German paratrooper wearing a post-1940 single decal helmet. Judging by the *Ostfront* ribbon in his buttonhole, he has seen service in Russia.

Paratrooper Helmet "Reissues"

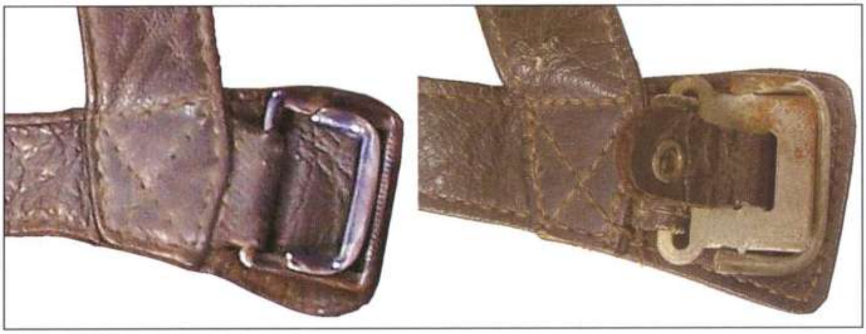
For reasons stated earlier, wartime M38 helmets are not easily dated due to the mixture of early and late components often observed regardless of the probable shell production date established by the steel lot number. This situation is further exacerbated by the probability of a reasonably large number of helmets undergoing wartime refurbishment for re-issue.

As discussed previously, standard ground forces helmets are known to have undergone after-the-factory modifications ranging from simple "field repaints" to complete overhaul at refurbishing facilities. Helmets which have been extensively reworked (not simply in the field but at established facilities or possibly the factories themselves) are most often identified by having a rough texture finish to the inside of the shell. This feature is very rarely encountered when observing M38 helmets and may, at first thought, lead to the assumption that few M38 helmets were refurbished. Yet, considering the prolonged use of many *Fallschirmjäger* combat formations and the relatively high cost of the production of airborne helmets it appears logical to assume that a fair number of helmets were completely refurbished and reissued. Since almost none are found with the textured paint on the inside (as found with standard helmet reissues) it may be rightly conjectured that paratrooper helmets underwent refurbishment of a more extensive nature. For instance, it could be that greater time and effort was expended on these special purpose helmets during refurbishment. The shells of helmets being reworked may have been stripped of their original finish and repainted in the same method as originally done when produced at the ET factory, i.e., sprayed in two stages; smooth texture on the inside and rough texture on the outside, with drying time allowed in between. Thus, the identification of a refurbished helmet versus a helmet in factory finished condition might only be determined by later component parts being found on shells which are known to be earlier based upon the lot number.

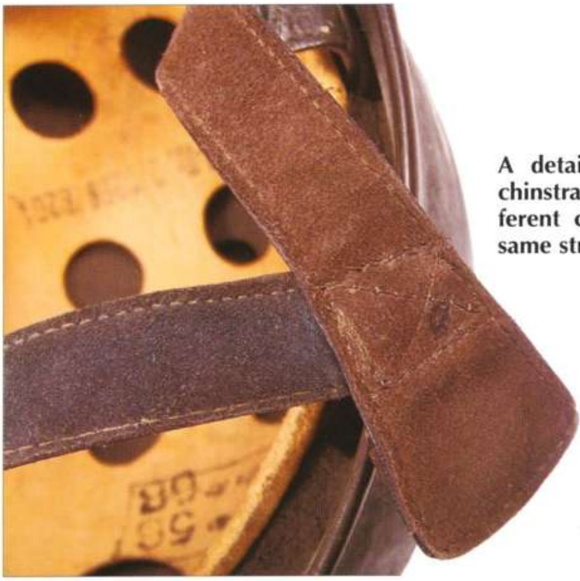


This photo shows the arrangement of the wartime M38 paratrooper chinstrap. Note that in this particular example, the color of the chamois lining is different on the right and left straps.

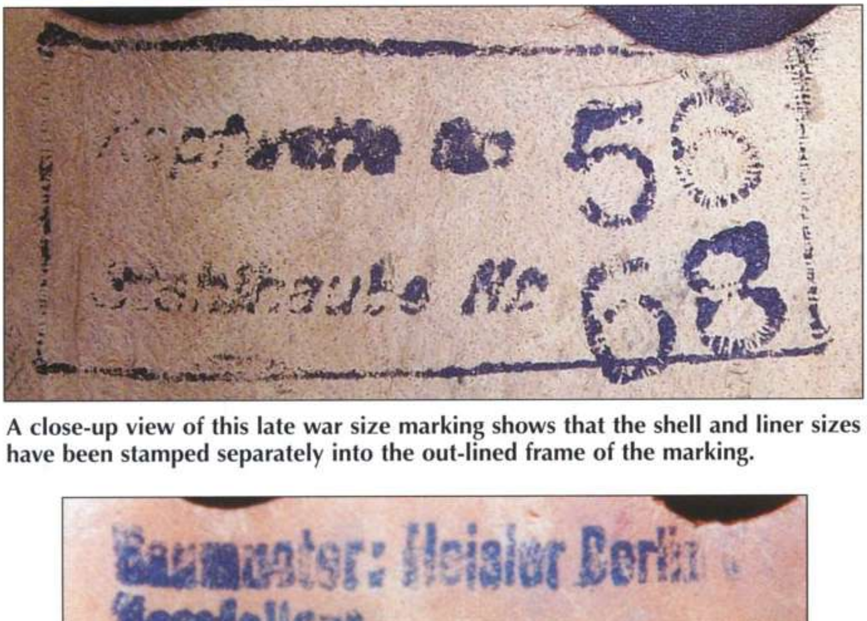
This photograph shows an excellent view of a wartime produced M38 helmet. The vented spanner bolts are visible and the mid-war pattern chinstrap is seen in detail. (Courtesy D. Stijn) ➧



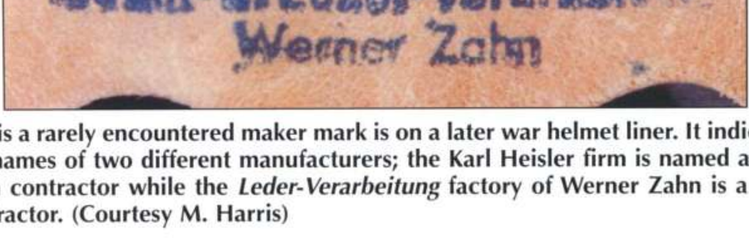
The early style friction buckle at left is compared with the wartime buckle at right.



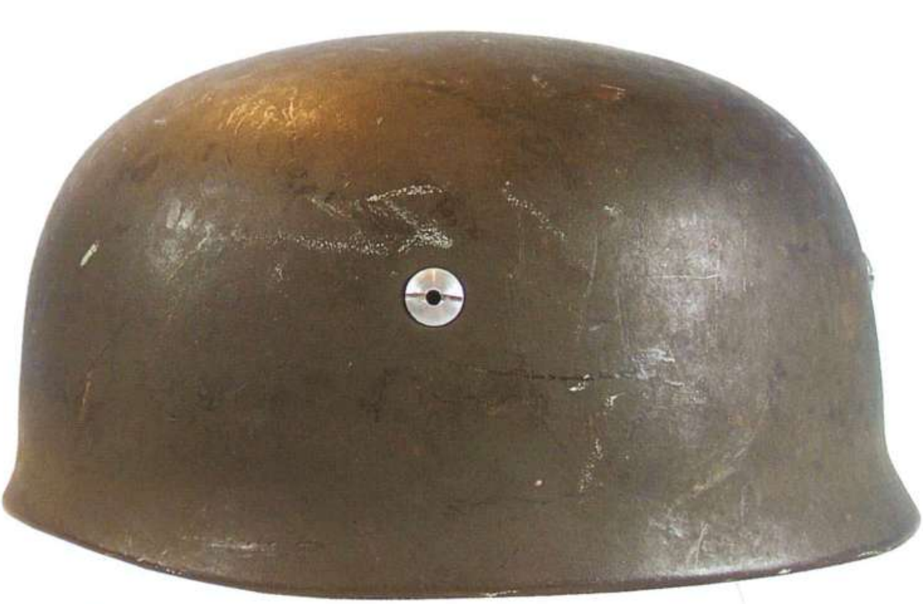
A detail photo of the chamois chinstrap lining. Note the two different color tones found on the same strap.



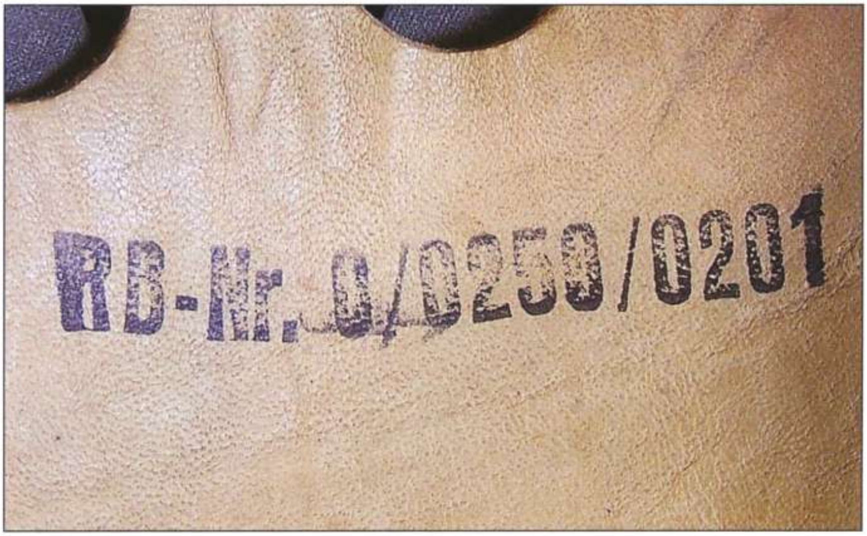
A close-up view of this late war size marking shows that the shell and liner sizes have been stamped separately into the out-lined frame of the marking.



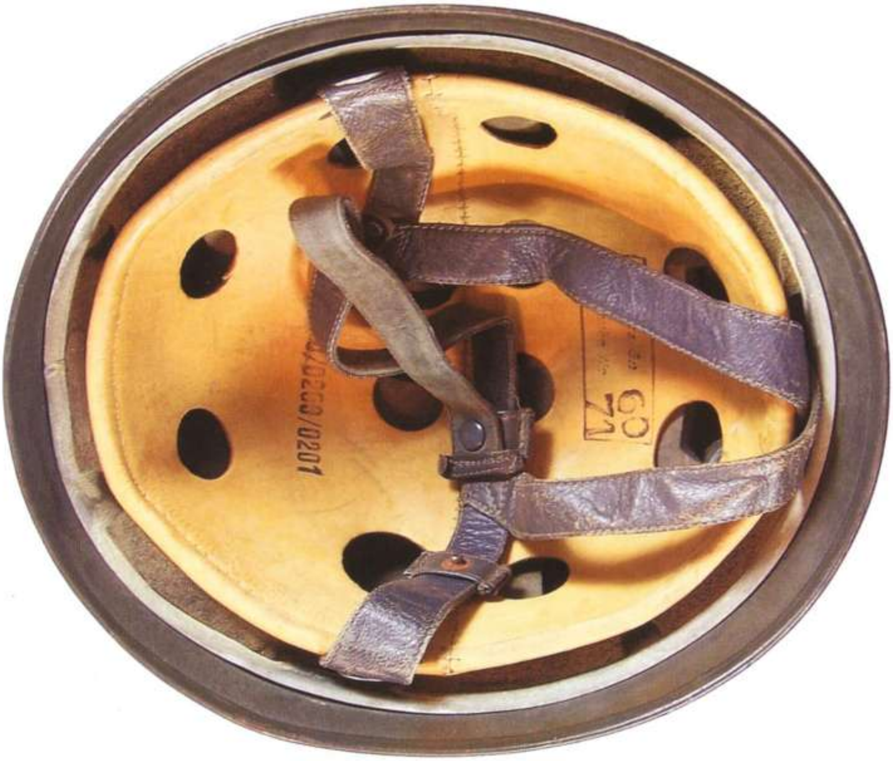
This is a rarely encountered maker mark is on a later war helmet liner. It indicates the names of two different manufacturers; the Karl Heisler firm is named as the main contractor while the *Leder-Verarbeitung* factory of Werner Zahn is a subcontractor. (Courtesy M. Harris)



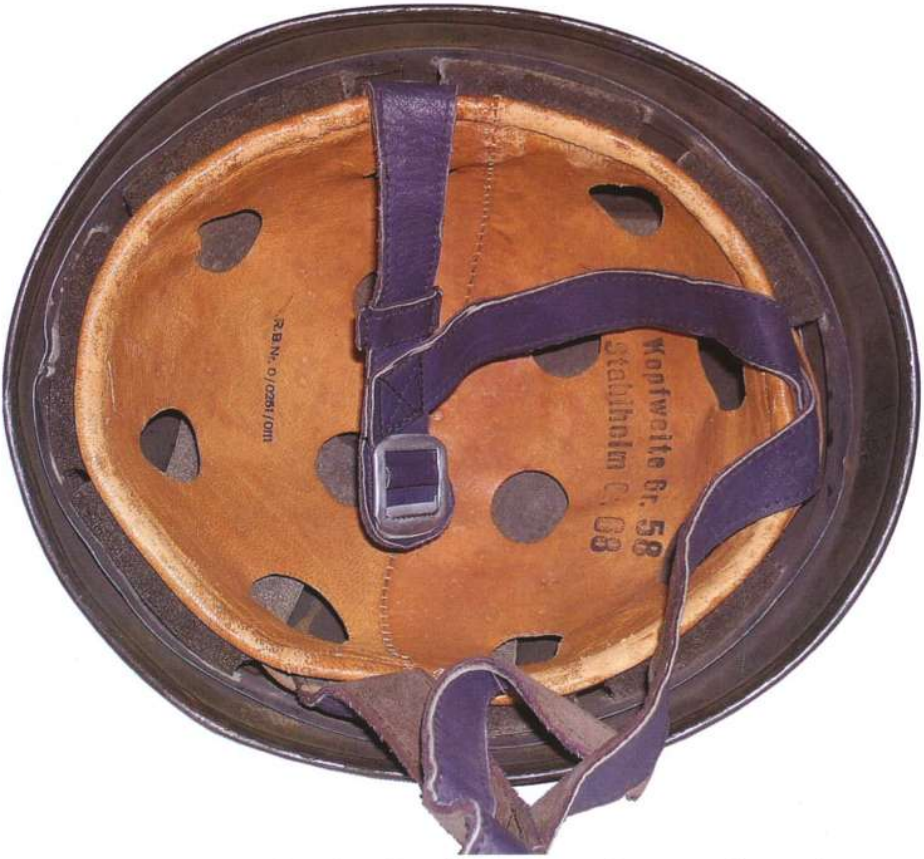
This M38 paratrooper helmet was factory issued with no insignia. It is assumed that helmets issued to the airborne forces conformed to the same specifications regarding decal application as those issued to the other branches, suggesting this helmet was factory finished during or after the second half of 1943. (Courtesy R. Richter)



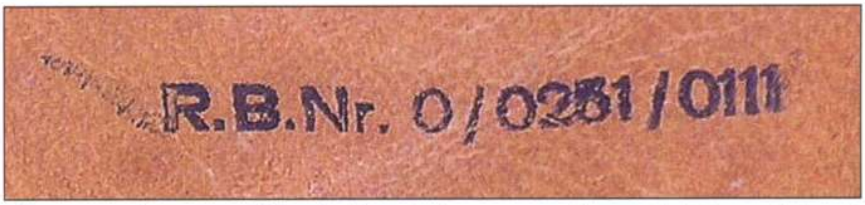
Like most other items of military contracted equipment, the RB number replaced the manufacturer name as a maker mark during the war years. Generally, the first set of digits appearing in the RB number indicates the geographical location (city or region) of manufacture. The second (or last) set of digits indicates either the manufacturer or the specific contract. The number 0/0250/0201 is the one assigned to the manufacturer Karl Heisler of Berlin. (Courtesy R. Richter)



This helmet being in nearly unissued condition (and not suffering from improper storage/use in the years since 1945) affords the opportunity to view the color of the liner and chinstrap as it appeared when first produced. (Courtesy R. Richter)



The liner is in apparently unissued condition, the small amount of age and wear appearing to be resulting from post-war storage. Note the blue color of the leather chinstraps and the reappearance of the early style friction buckle on a late war strap. (Courtesy J. Miller)

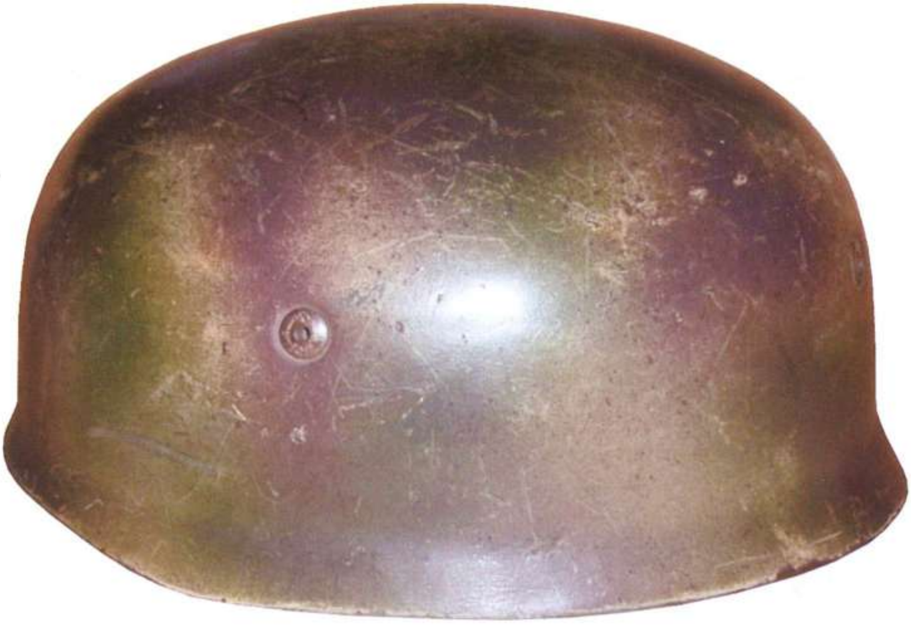


The RB number stamped in the liner indicates manufacture by Werner Zahn of Berlin-Charlottenburg. M38 liners which were produced by Werner Zahn are seen only in late production.

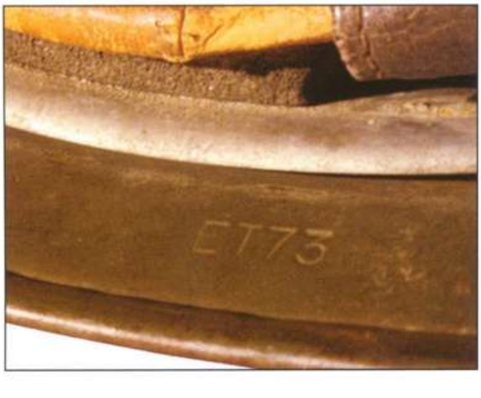
This M38 helmet likely dates to 1944 and is one of the last of the paratrooper helmets produced. Note the unusual flare of the rim. The helmet is finished in a grey toned paint with only light texture. The liner retaining bolts are the vented slot type. Interestingly, the majority of helmets which have this flared rim are marked with the same steel lot-number as this one: 4054. (Courtesy J. Miller)

Camouflage Paratrooper Helmets

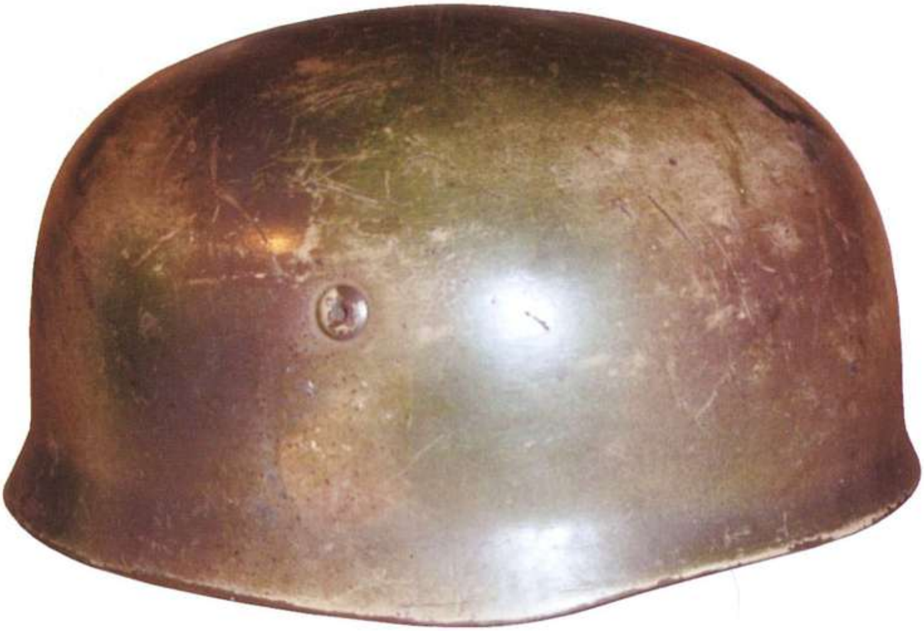
In the later stages of the war, as Germany's role became more defensive in nature, elite combat formations took an ever increasingly active role on all fronts. Thus engaged against an enemy whose strength continued to grow, the *Fallschirmjäger* became more reliant upon the use of camouflage for purposes of concealment. The variety of methods used to camouflage paratrooper helmets seems endless. Following is an examination of some of the basic methods.



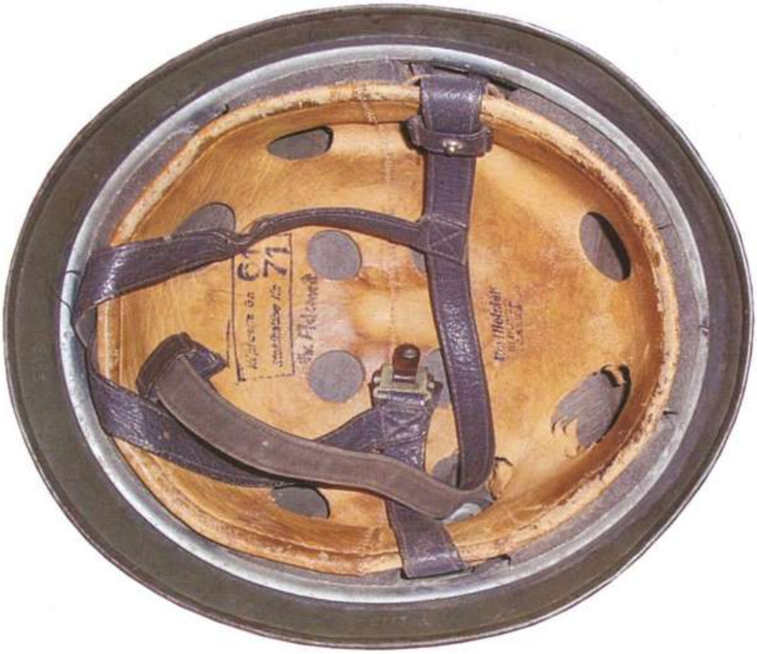
This early M38 was factory finished in smooth texture paint prior to adoption of M1940 specs. The surface has been covered in a three-color airbrushed camouflage scheme. (Courtesy F. Vitak)



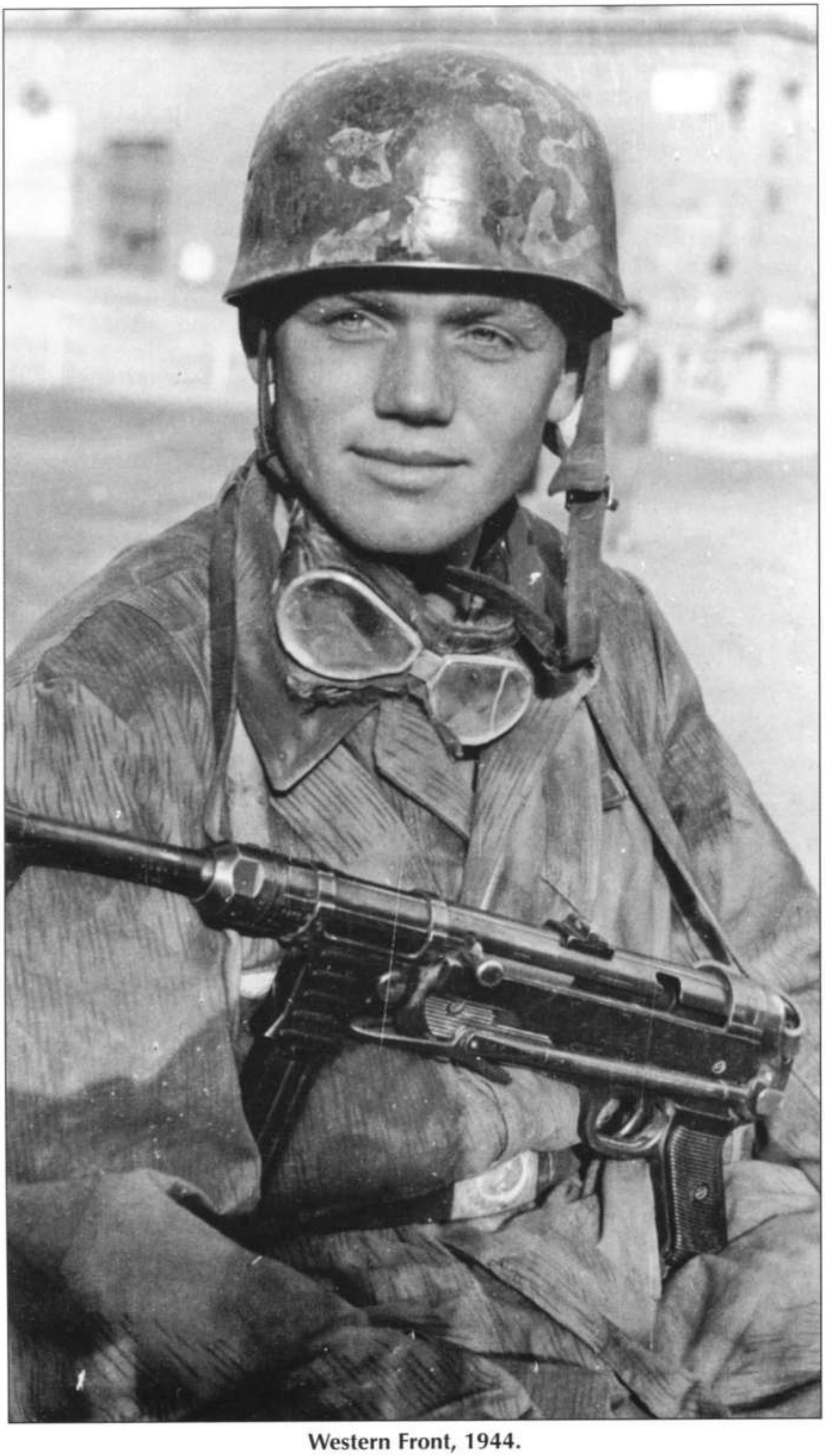
The size marking shows this to be an example of the rarely encountered 73cm sized shell. (Courtesy F. Vitak)



This view shows the national color shield beneath the sprayed camouflage. (Courtesy F. Vitak)

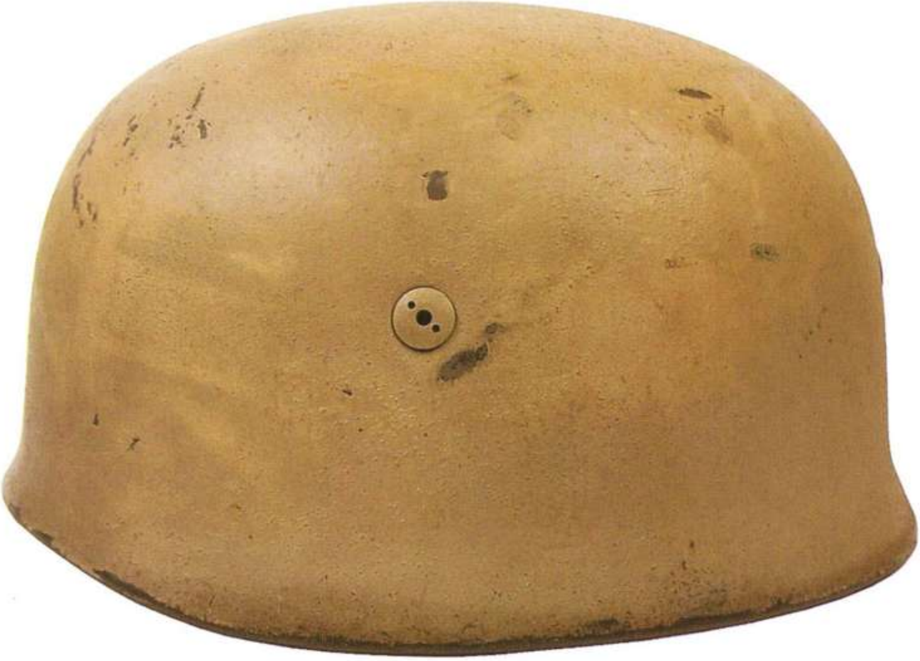


Although the helmet shell is marked ET73, the liner assembly is actually for a size 71 helmet. The liner assembly is by all indications original to this helmet. It can only be speculated as to the reason for its installation into this shell. Occasionally one does encounter oversized shells (both paratrooper and standard models) with smaller liner assemblies, possibly indicating expediency in the assembly of helmets to fill quotas for specific sizes. (Courtesy F. Vitak)



Western Front, 1944.

(Otto Spronk Photo Collection)



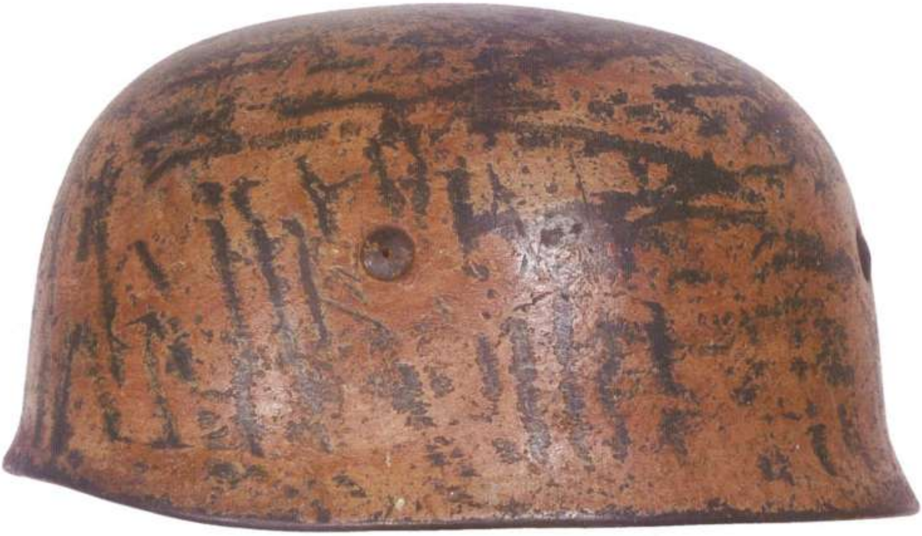
This wartime produced single decal M38 has been painted completely over in tan vehicle paint. The helmet was found at a flea market in Belgium (presumably near where it had been since 1944) which provides interesting evidence that not all tan camouflaged helmets were intended for use in tropical areas. (Courtesy G. Eigenfeld)

German paratroopers in North Africa.

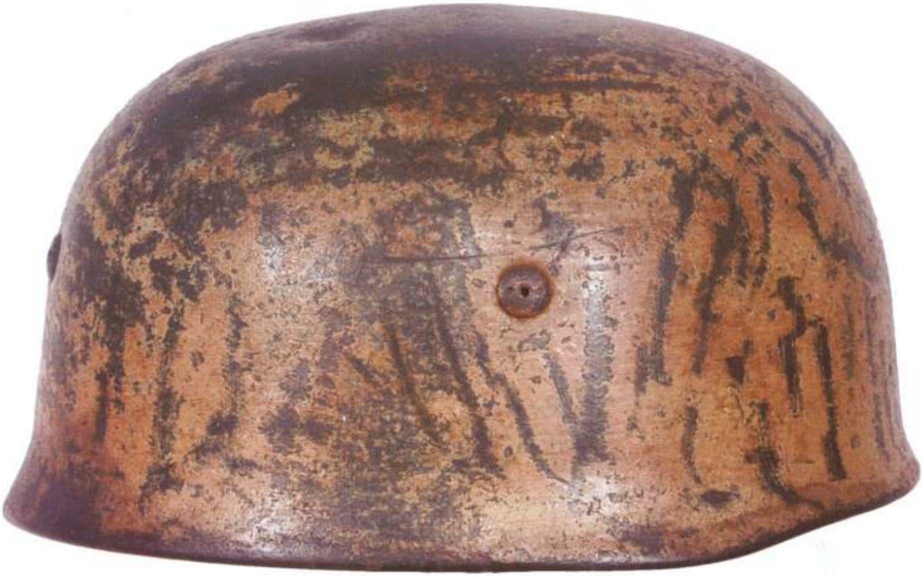
George A. Petersen

North Africa.

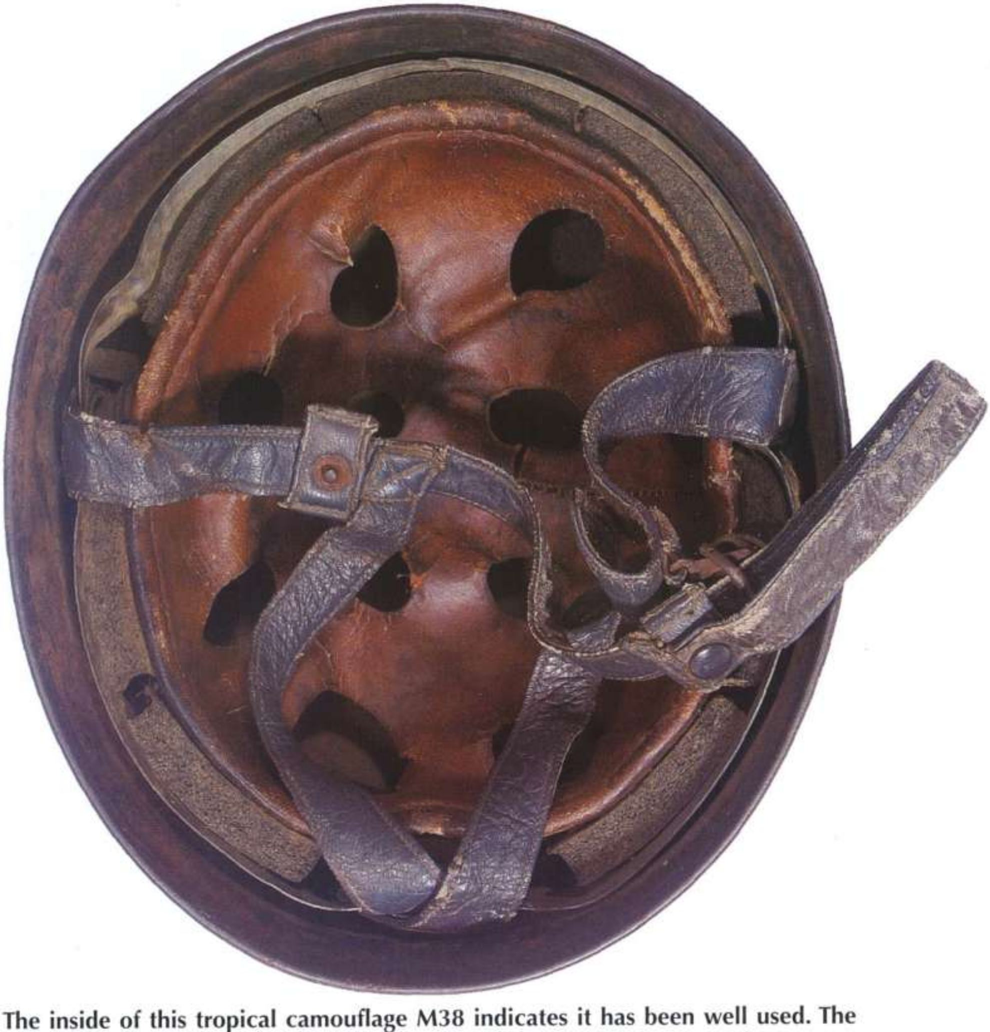
Italy.



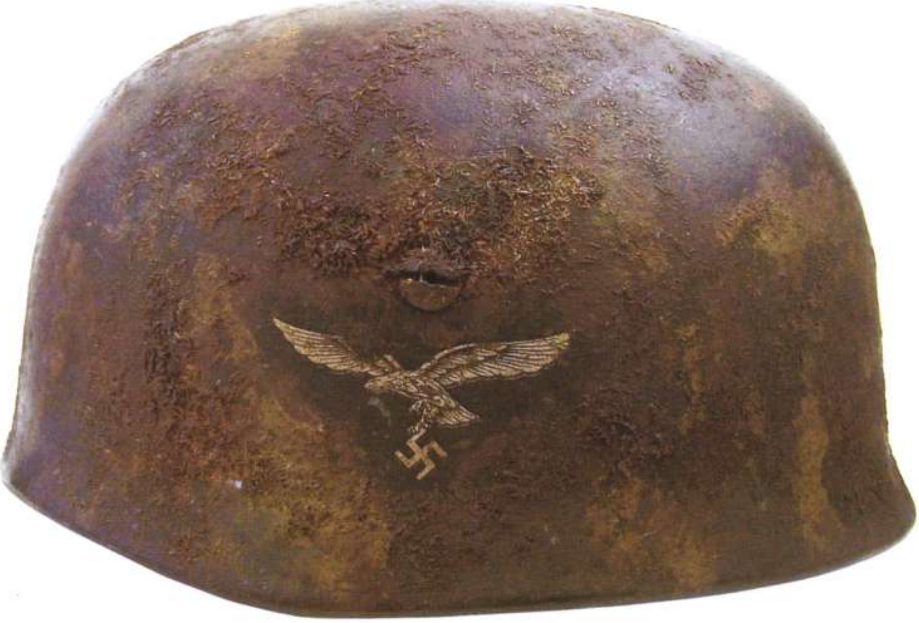
This tan camouflaged helmet has the slight pink hue normally associated with helmets which were camouflaged in North Africa. At some point after the helmet was painted, the exterior was scratched evenly over the surface to break up the color pattern. (Don Troiani Collection, photo copyright Don Troiani)



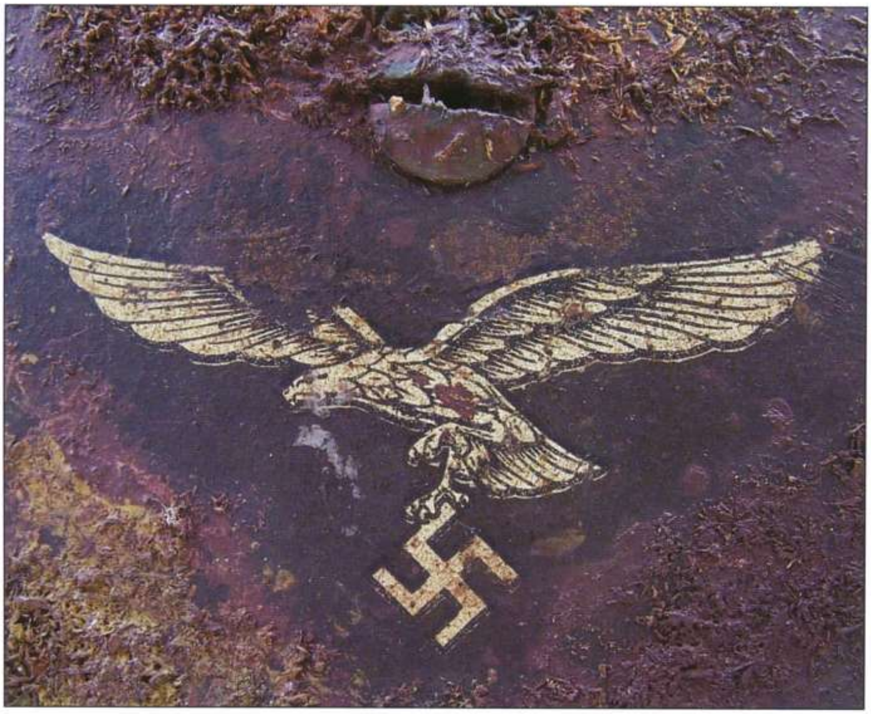
This right side view shows the obvious combat wear undoubted seen by this example. (Don Troiani Collection, photo copyright Don Troiani)



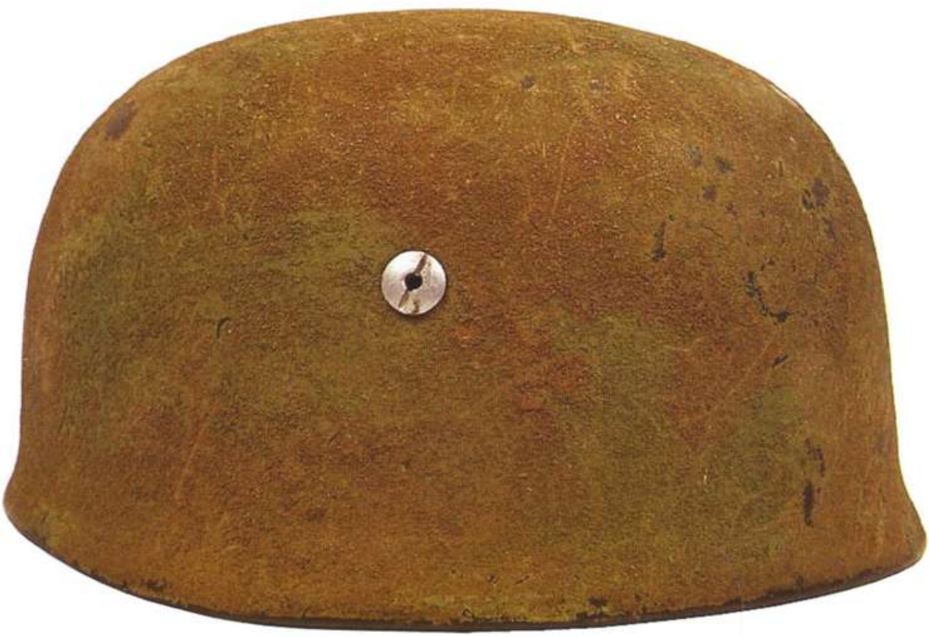
The inside of this tropical camouflage M38 indicates it has been well used. The components are all of wartime manufacture. (Don Troiani Collection, photo copyright Don Troiani)



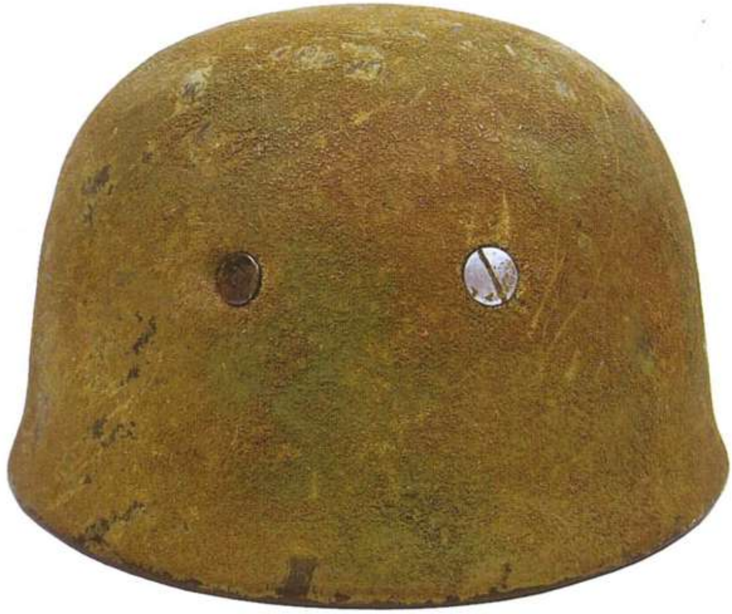
This M38 helmet has been camouflaged in a three-color pattern with sawdust added for texture. (Courtesy D.Camarata)



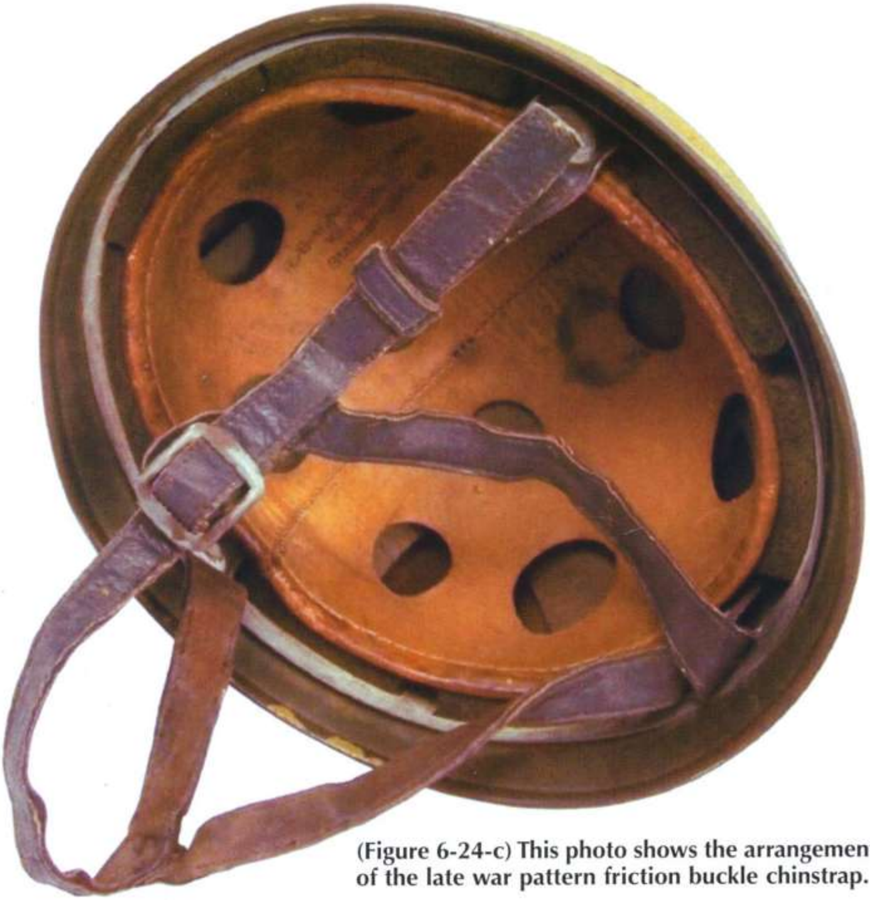
The close-up shows the eagle decal has been purposely left exposed during the camouflage application. Note the thick amounts of sawdust showing near the slotted liner retention bolt. (Courtesy D.Camarata)



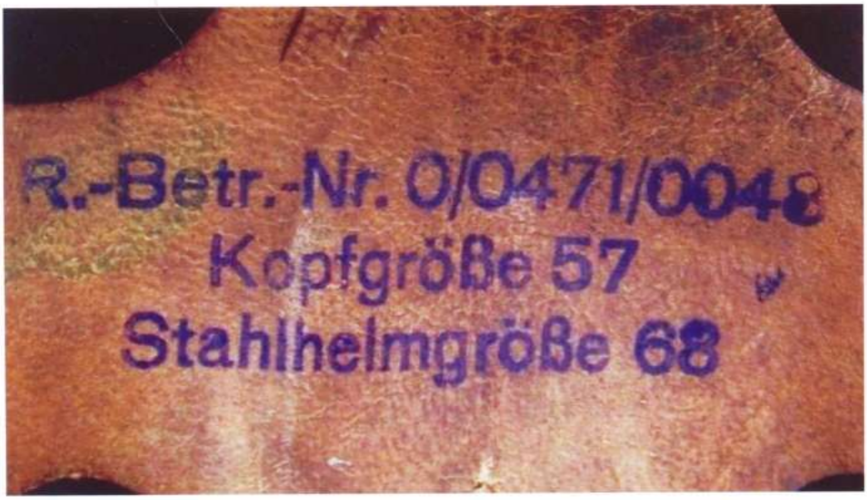
Reportedly captured at Casino, Italy, this late production M38 has been overpainted in a subtle three-color camouflage with fine grain woodchips mixed in. The liner retaining bolts at the sides have been period changed from the non-vented slot types which were originally installed.



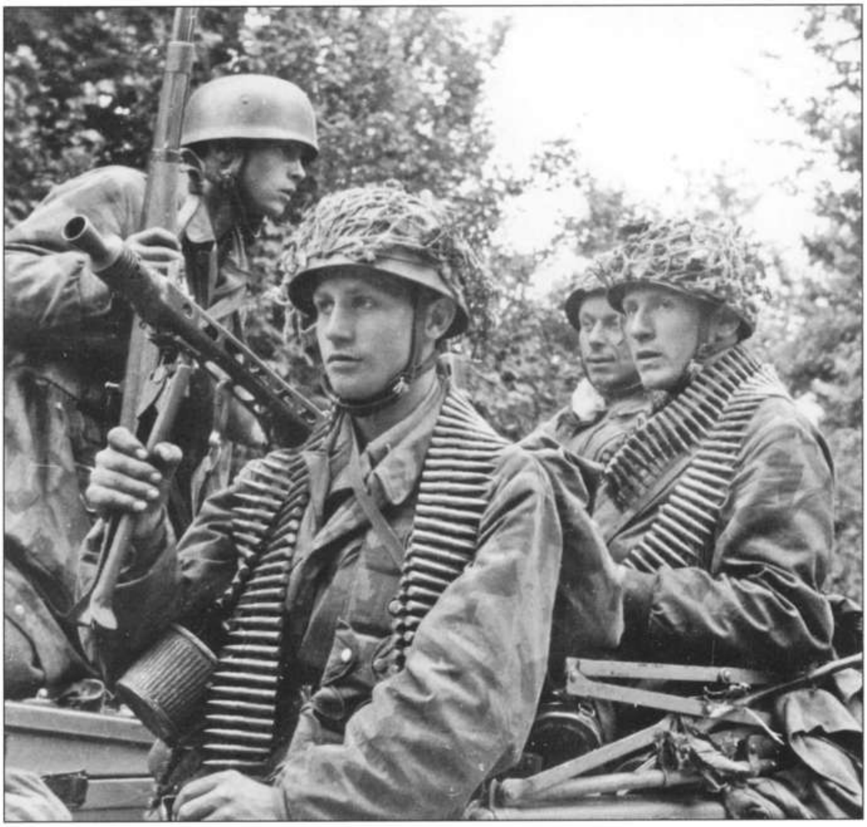
The rear of this helmet shows the single slotted bolt which had been factory installed. The left side bolt was period replaced with a rivet most likely due to the original one coming loose. Such cases of mismatched bolts are often seen on original helmets, especially as in this case where the helmet has apparently seen extended periods of action.

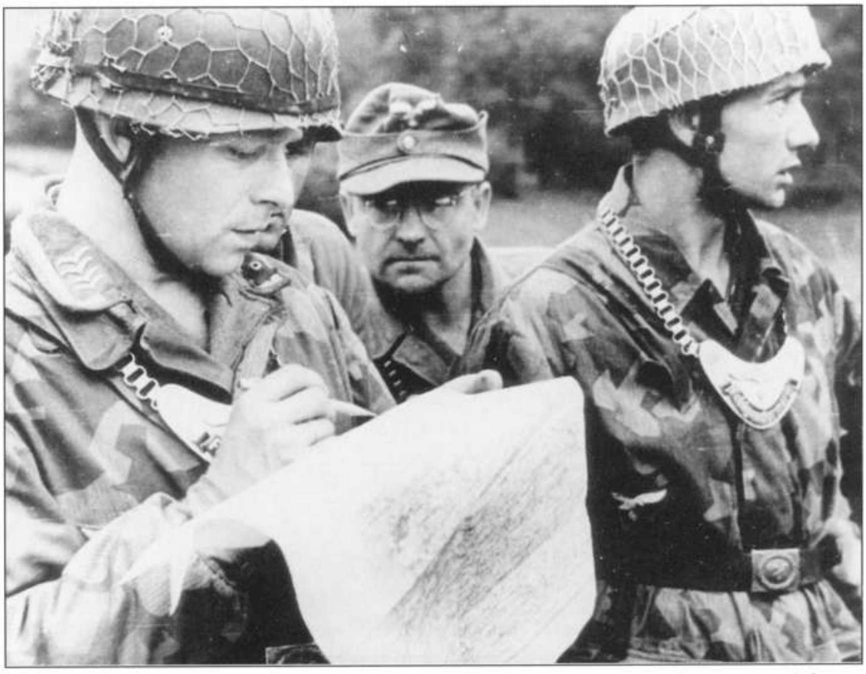


(Figure 6-24-c) This photo shows the arrangement of the late war pattern friction buckle chinstrap.

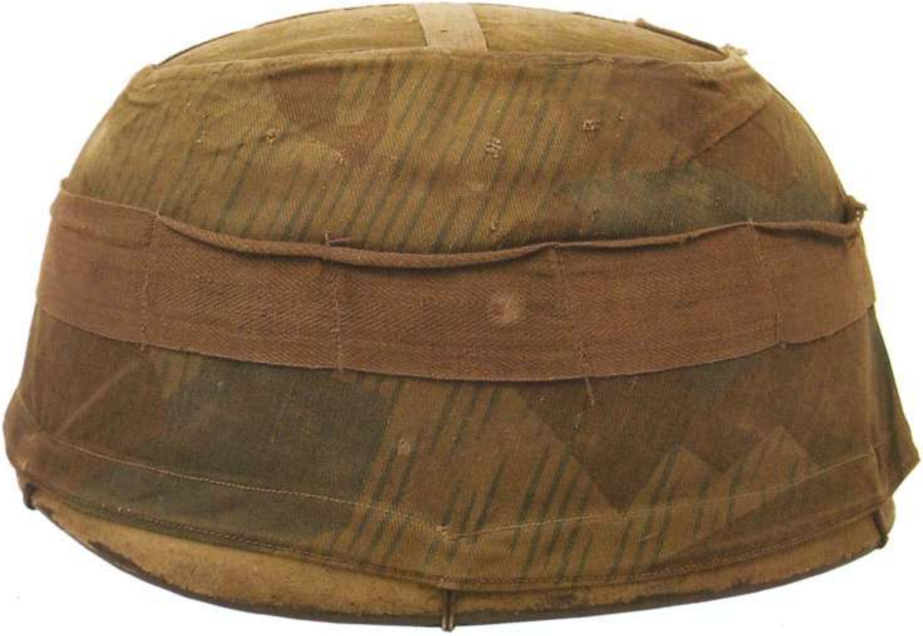


The maker mark of this late war M38 shows the incorporation of the helmet shell/liner size along with the manufacture RB number. The manufacturer is Schuberth-Werk, Braunschweig.

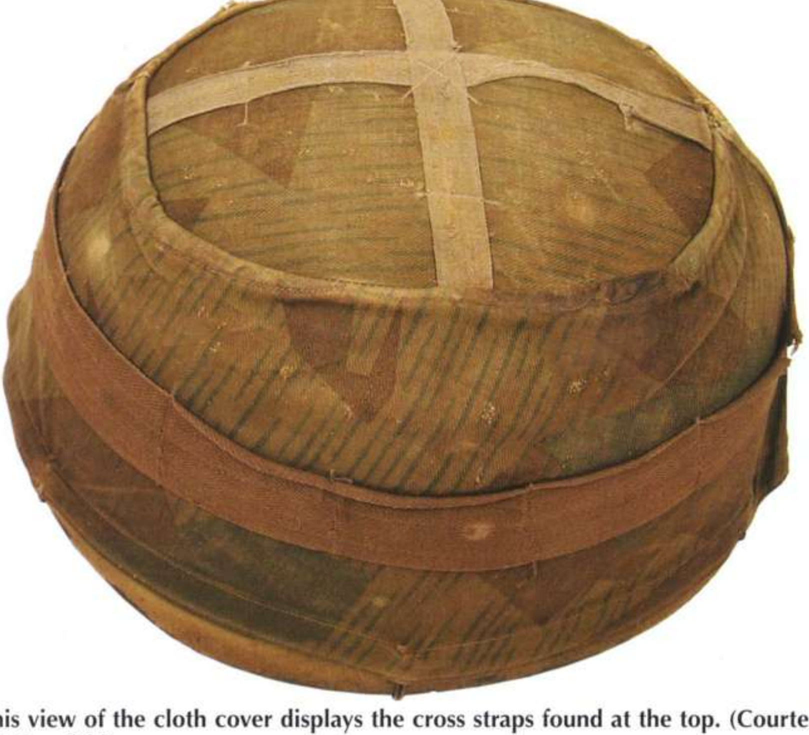




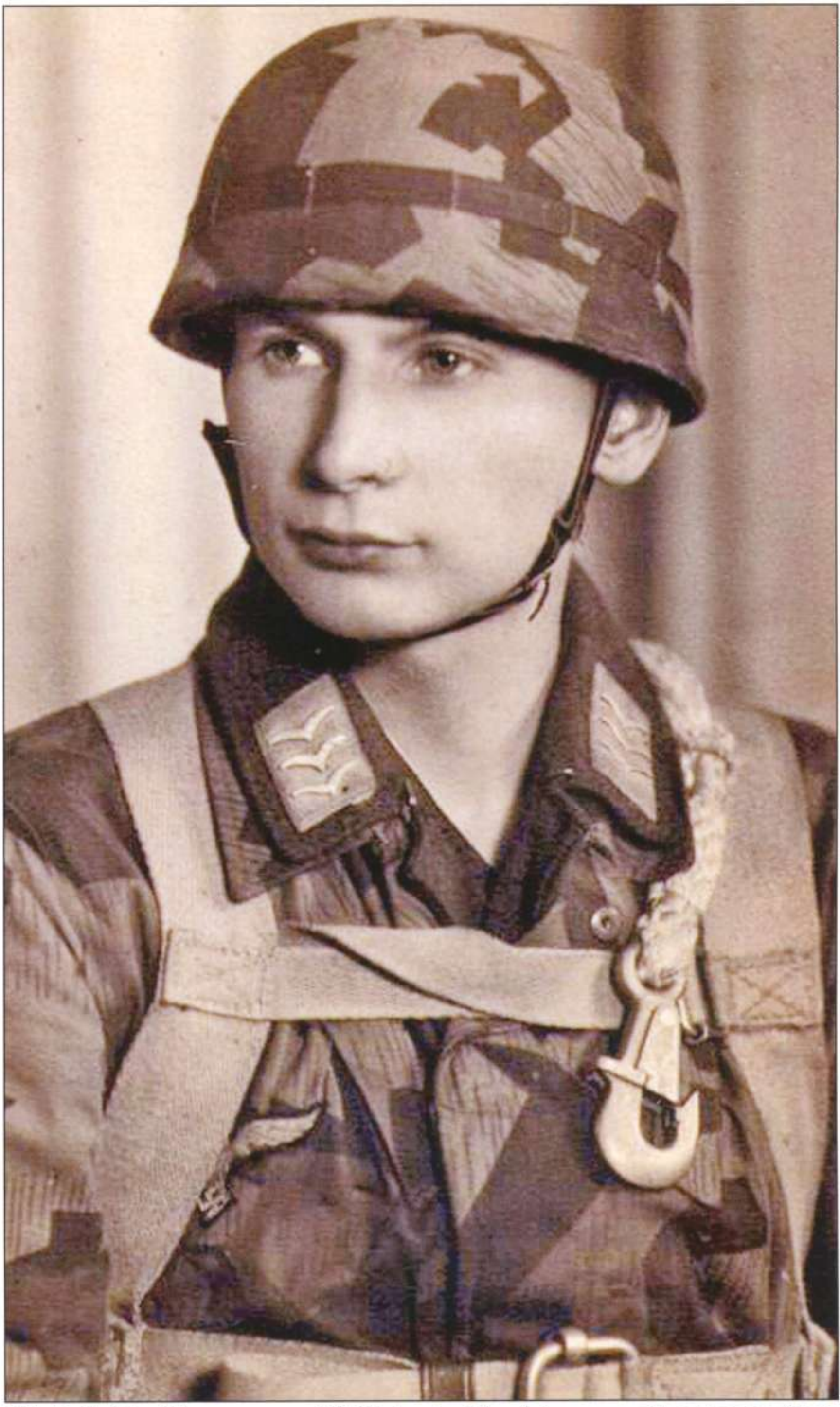
Netting and chicken-wire were but two ways to hold camouflage materials.



An original example of the camouflage cloth cover produced of the special *Luftwaffe* contract splinter-pattern material known as the "B" pattern. This cover is the version which is attached to the helmet by six metal hooks. (Courtesy G. Eigenfeld)



This view of the cloth cover displays the cross straps found at the top. (Courtesy G. Eigenfeld)


Otto Spronk Photo Collection

This *Fallschirmjäger* wears an M38 helmet with a late-war produced camouflage cover. Note the thin band around the sides of the cover as well as the lack of cross-straps on the top.

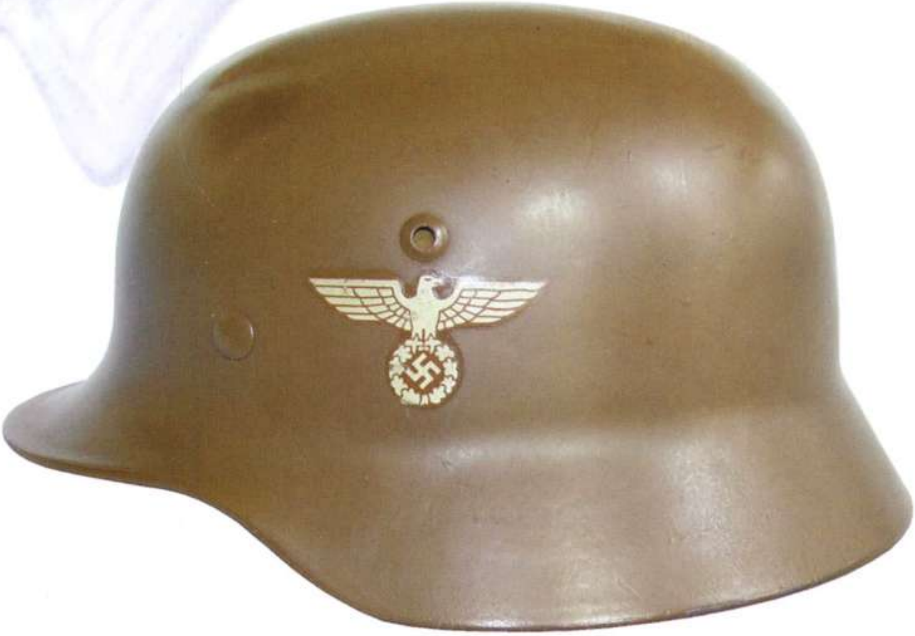
Chapter VII

Combat Helmets in other roles

Although it is not the purpose of this book to detail civil helmets or helmets of minor service branches, certainly the fact cannot be ignored that a significant number of combat weight helmets were issued for use by political, para-military and miscellaneous combat formations. There are innumerable examples of German military contracted helmets which have seen service with such units. In this chapter a few significant examples are discussed.

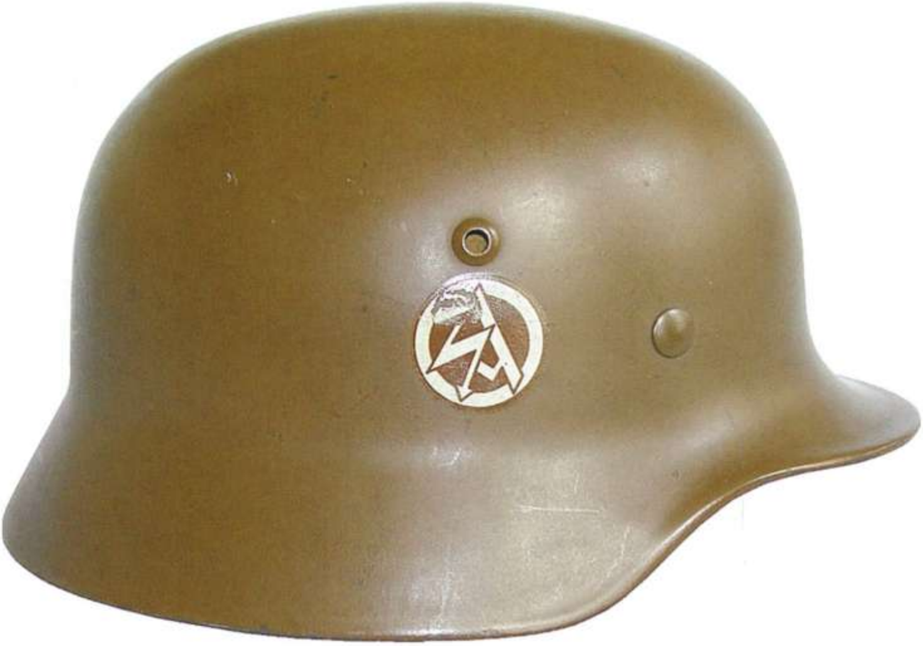
SA *(Sturmabteilung)*

From the early 1930s the SA *(Sturmabteilung)* utilized steel helmets for wear in parades and various functions. These were

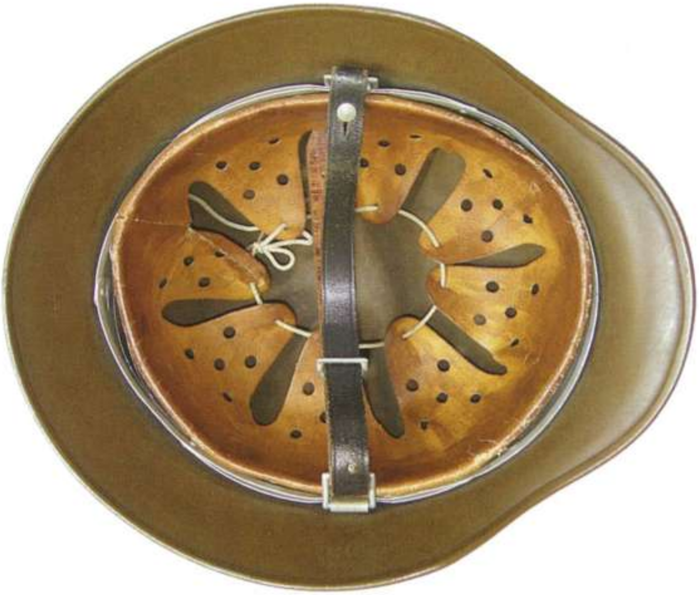


This is an example of an M35 helmet which was factory finished in the brown color of the SA. It is stamped with the maker-size marking Q 66. According to Ludwig Baer, the wide eagle insignia was introduced in 1939. It is seen here applied to the left side.

mostly in the form of civil types or reworked WWI vintage helmets. However in 1939 there was at least one contract awarded to the F.W. Quist firm to produce a limited number of M35 helmets intended to be issued to SA personnel.



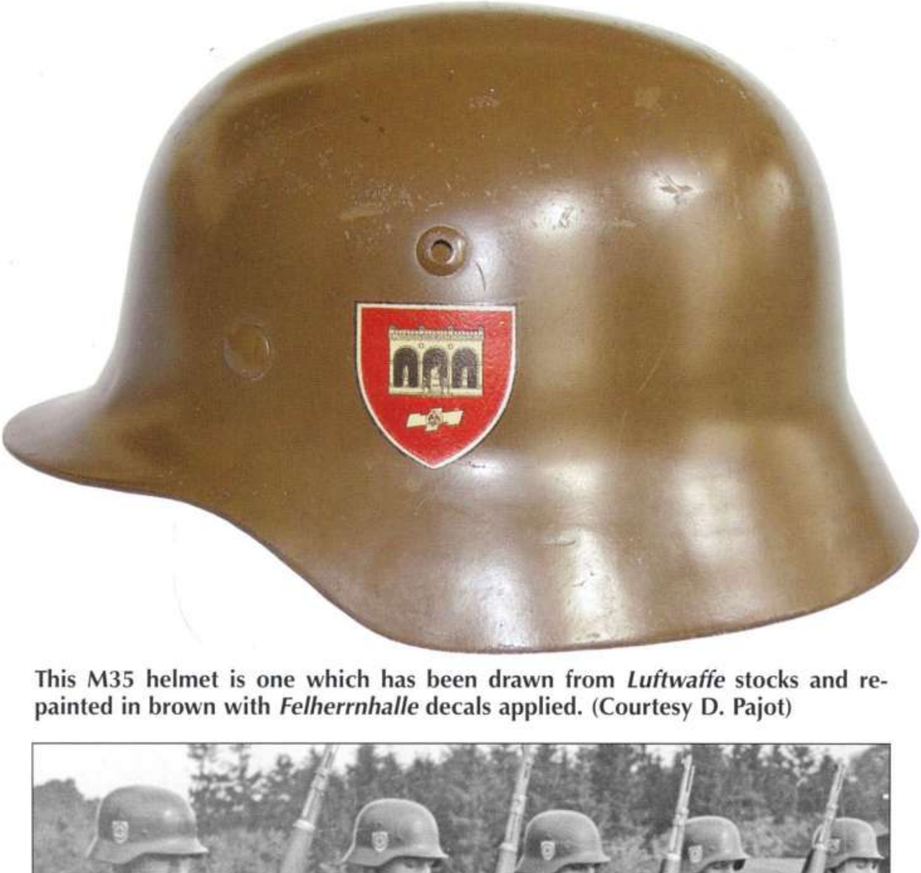
The right side of the SA M35 bears the SA emblem.



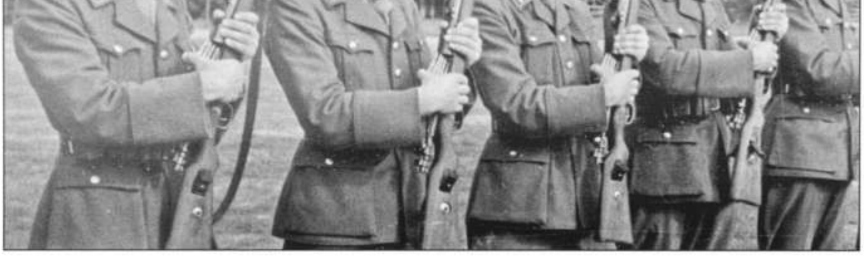
The interior has been factory sprayed in SA brown. A 1939 acceptance stamp is found applied over the brown paint inside the dome. The liner assembly and chinstrap are like-wise dated 1939.

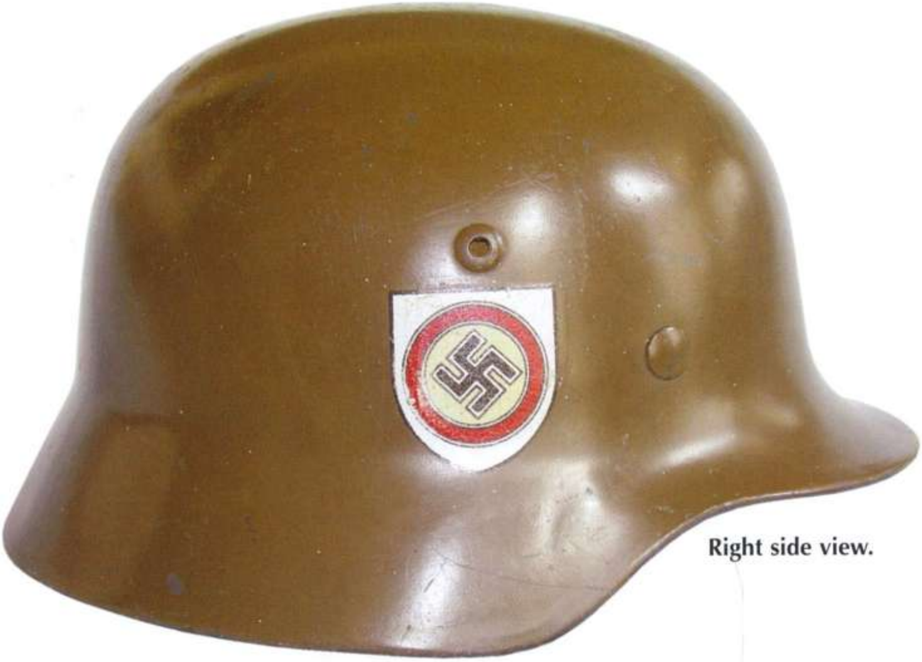
Feldherrnhalle

The *SA Standarte "Feldherrnhalle"* was created in 1936 as an armed unit of the SA mainly for parade and honor guard purposes. Ultimately it was comprised of some six battalions, or *"Sturmbanne."* Later, when Hermann Göring was named as the honorary commander, the *Standarte* was expanded as a combat unit and came under control of the *Luftwaffe*. Portions of this unit were attached to combat formations. Most existing *Feldherrnhalle* helmets are Model 35s which were drawn from *Luftwaffe* stocks and re-furbished for their role with the FH *Standarte*.

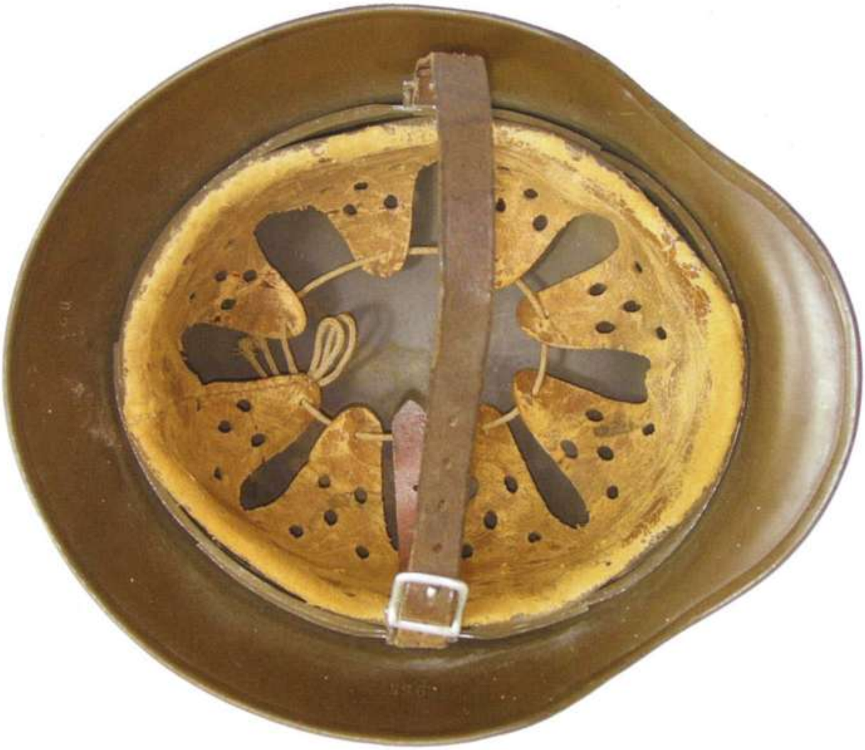


This M35 helmet is one which has been drawn from *Luftwaffe* stocks and repainted in brown with *Felherrnhalle* decals applied. (Courtesy D. Pajot)





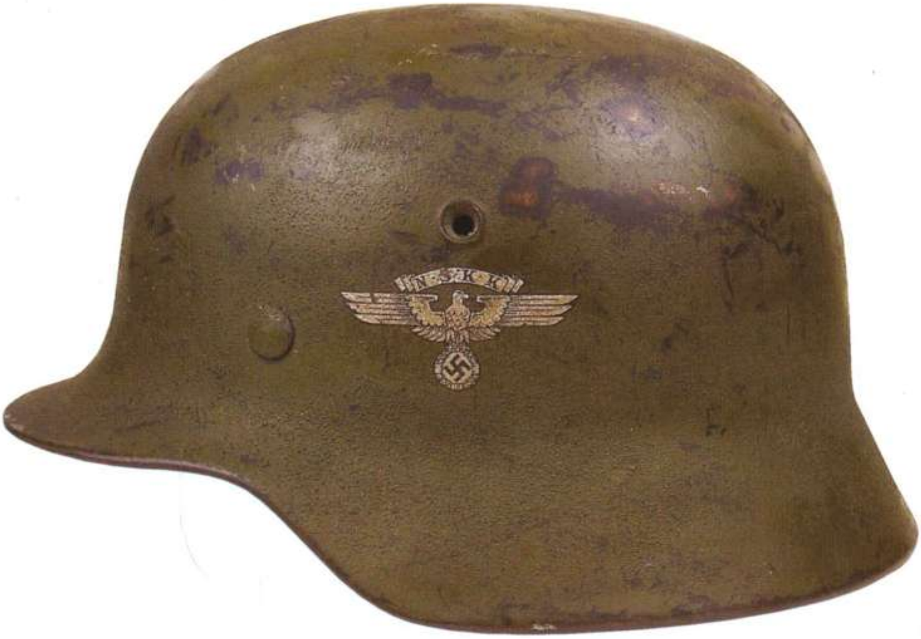
Right side view.



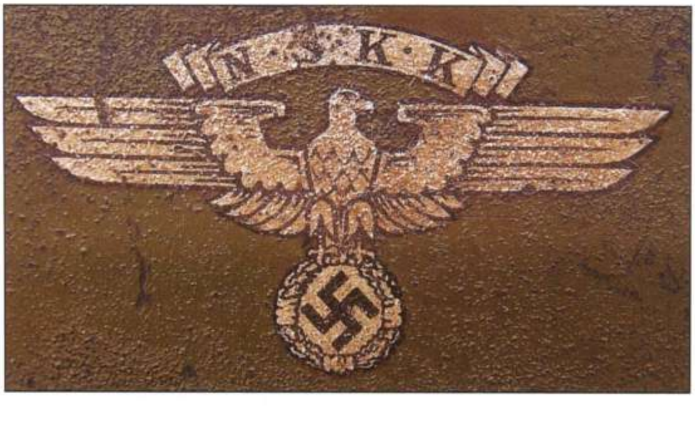
The inside skirts and the aluminum liner frame are over-painted in brown but the leather of the liner was masked off during the repaint. The inside dome retains its original factory applied *Luftwaffe* blue-grey color. (Courtesy D. Pajot)

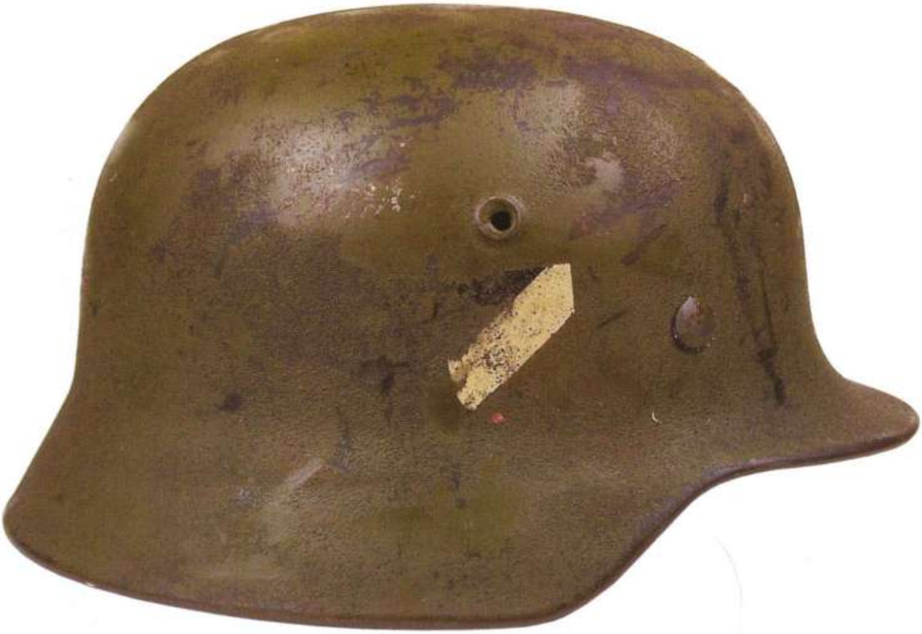
Nationalsozialistisches Kraftfahrkorps (NSKK)

The NSKK (National Socialist Motor Corps) had existed since the early days of the Nazi Party and served as a special transport organization in service of the NSDAP. After the beginning of the war in 1939 NSKK personal served in a non-combat role in support of the services of the *Wehrmacht* particularly the *Luftwaffe*. Steel helmets were drawn from military supplies and issued to NSKK members for wear while serving as drivers, dispatch riders and such. A good number of these helmets were refurbished and adorned with distinctive insignia of the NSKK. These helmets exist in single decal and double decal configurations. In cases where a second decal was applied, the national color shield was used.

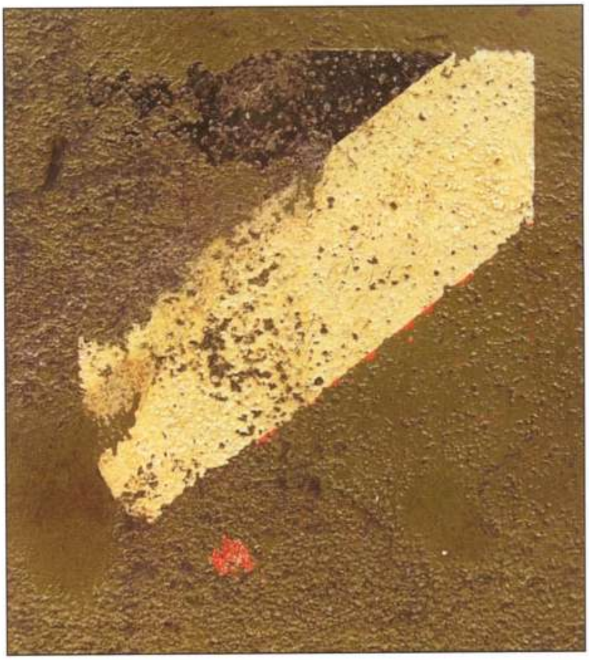


This ET 64 Model 40 helmet was originally a single decal *Luftwaffe* helmet. It has been painted over in a light olive color which has spotty texture applied. The NSKK insignia has been affixed to the left side.

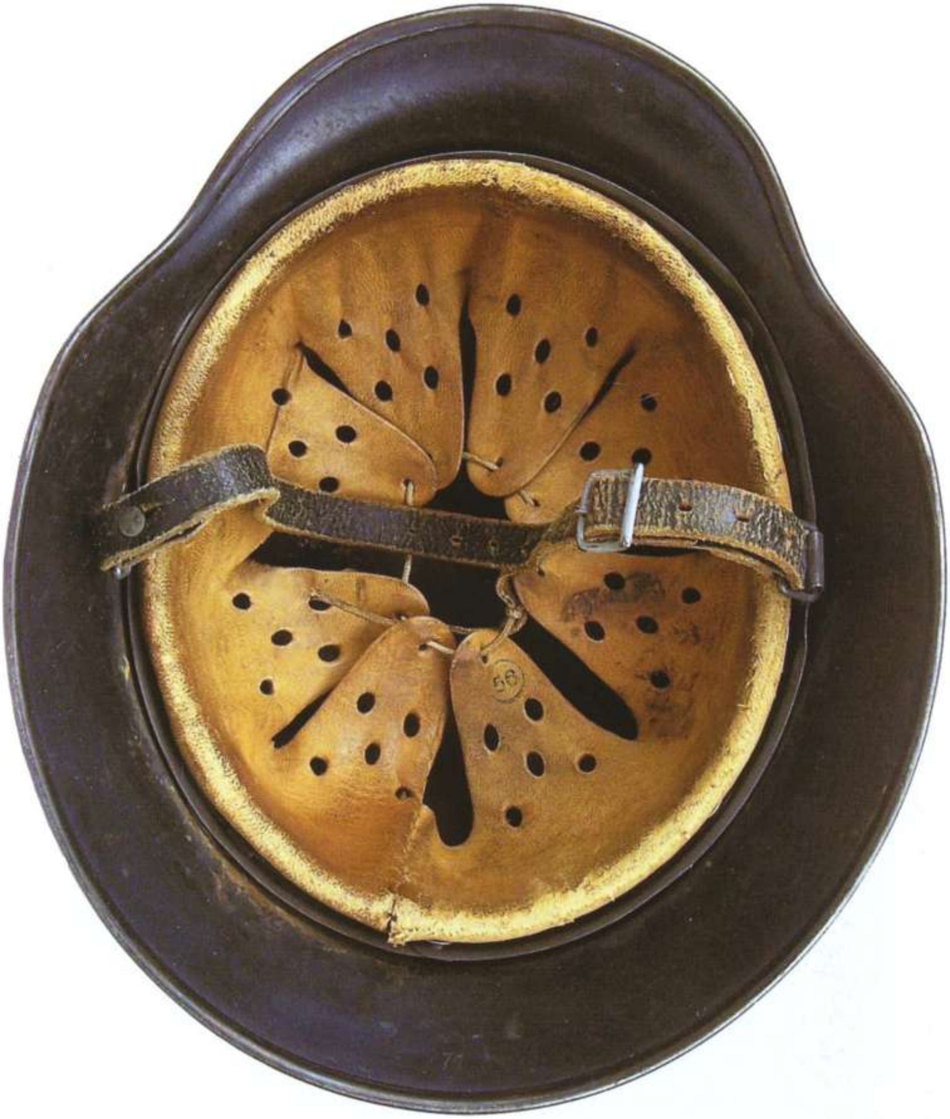




Several examples have been found with the red portion of the decal purposefully removed as in the case of the above specimen. The purpose for this removal is unknown.



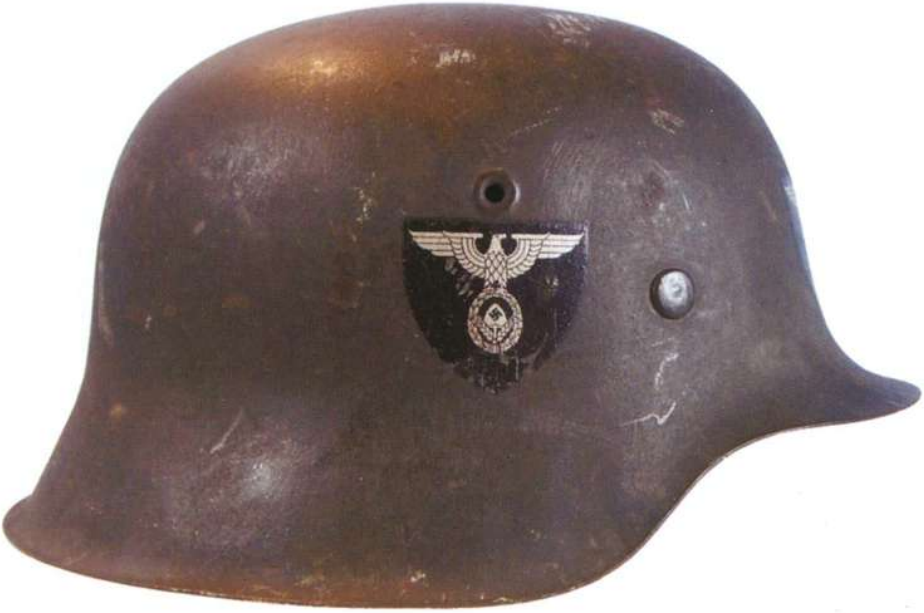
This close-up shows the details of the Motor Corps eagle with the NSKK scroll.



This interior view of the Model 40 NSKK helmet shows the original factory applied *Luftwaffe* blue paint. This helmet has a 1940 dated steel framed liner.

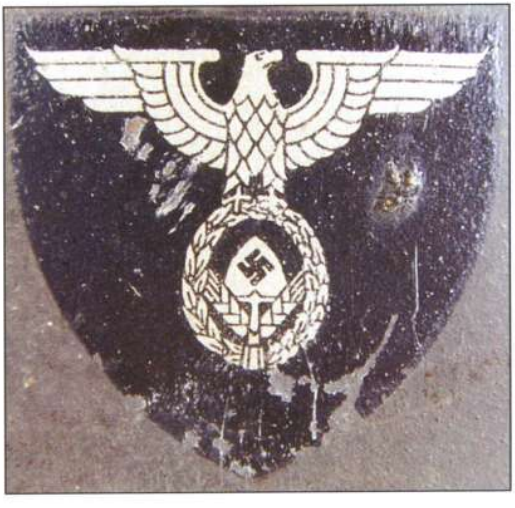
Reichsarbeitsdienst (RAD)

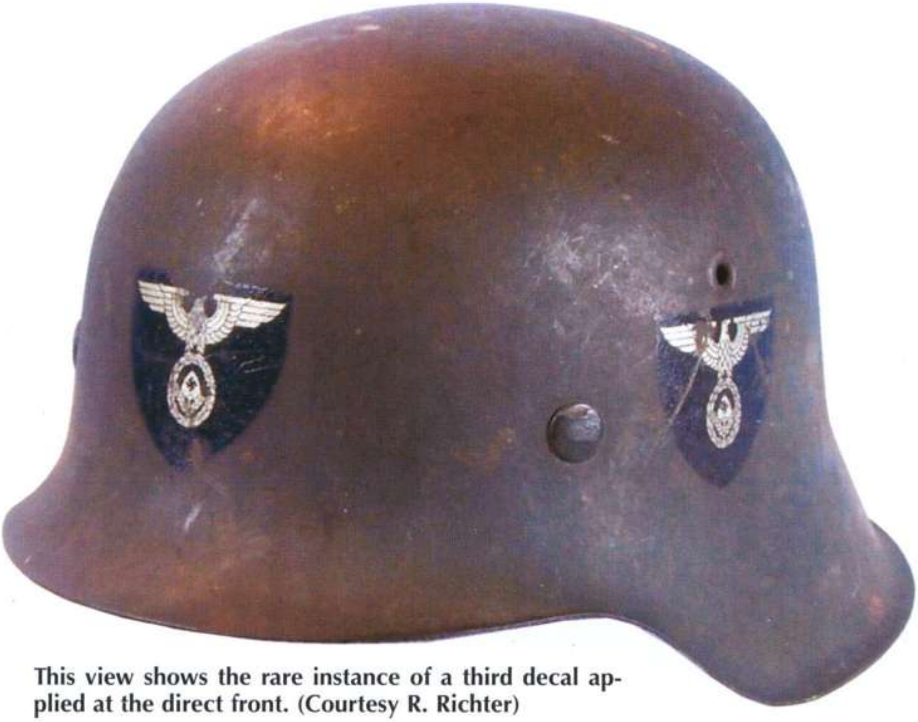
In the years before WWII the Reich Labor Service was instituted as a paramilitary organization with six month compulsory service for 18-25 year-old men. Groups of young men underwent rudimentary military training and were utilized as labor on farms and in the construction of highways, public works and military installations. During the war many RAD units served in rear echelon combat areas engaged in a variety of duties with a few actually pressed into service as combat formations.



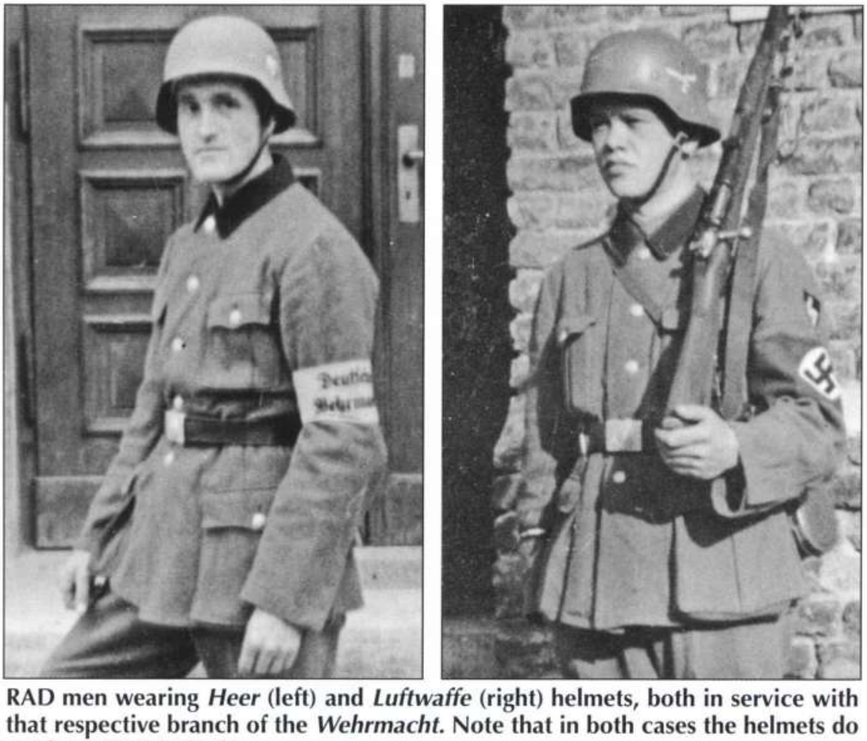
This Model 1942 helmet has three RAD decals applied, one at each side and one in the front. Examples of RAD issued helmets normally are encountered with the RAD insignia either on the left side or both left and right. (Courtesy R. Richter)

A close-up of the standard RAD decal. (Courtesy R. Richter)





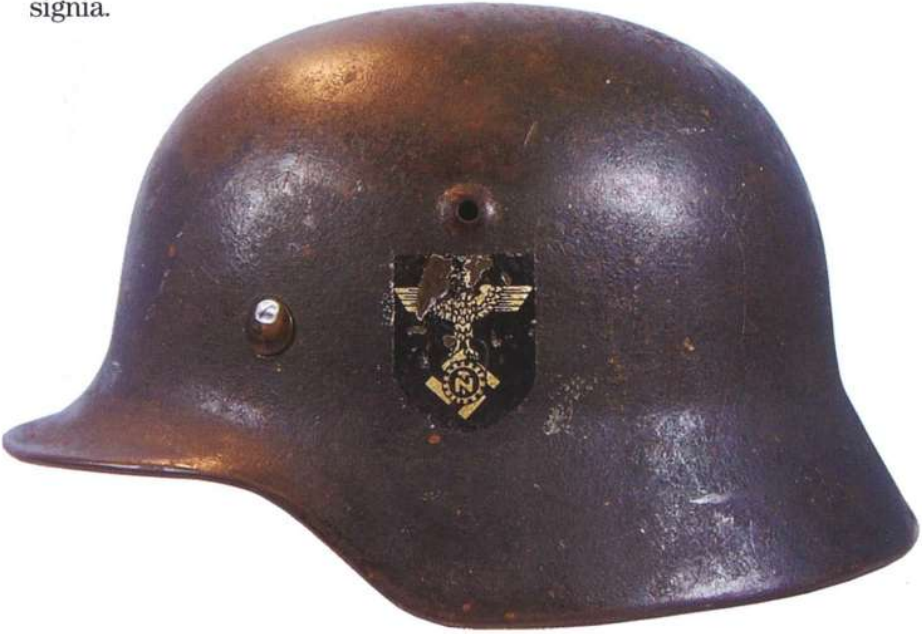
This view shows the rare instance of a third decal applied at the direct front. (Courtesy R. Richter)



RAD men wearing *Heer* (left) and *Luftwaffe* (right) helmets, both in service with that respective branch of the *Wehrmacht*. Note that in both cases the helmets do not bear RAD insignia.

Technische Nothilfe (TeNo)

Members of TeNo units were technically trained specialists who were responsible for maintenance of public services and utilities which where damaged as a result of enemy bombing. TeNo units were also attached to military formations where their personnel were responsible for repair and maintenance of installations. Uniforms were of para-military design and a variety of helmets were untilized. Many of these were of foreign manufacture that had been requisitioned from captured stocks. A very few examples of German military contract helmets exist which bear the TeNo insignia.



M35 single decal TeNo helmet. Originally factory finished in smooth texture *feldgrau,* this helmet has been repainted in 1940 spec textured paint and a single TeNo insignia applied to the left side. (Courtesy R. Richter)

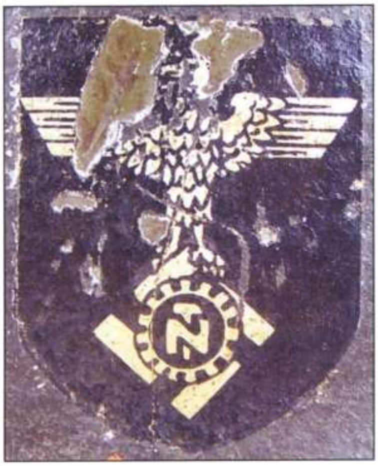
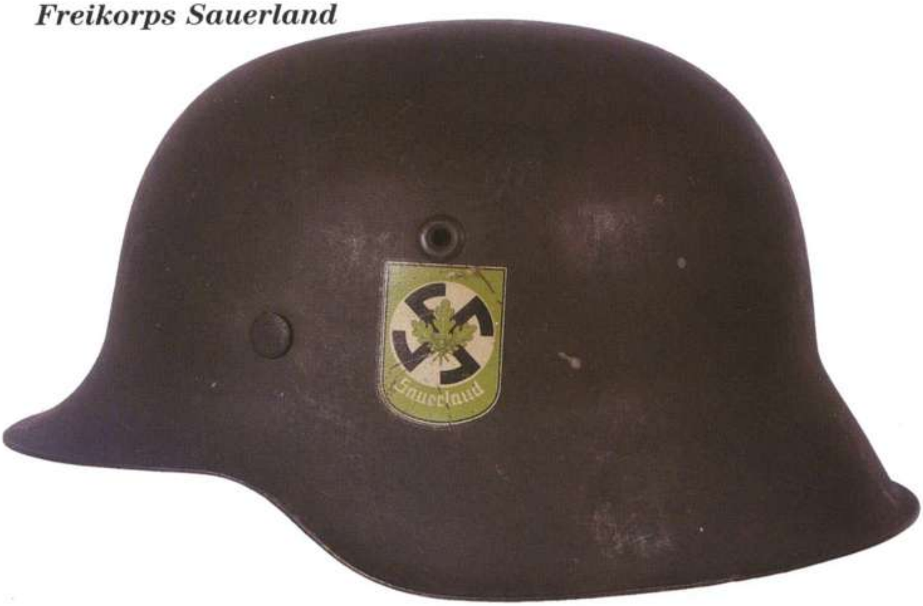
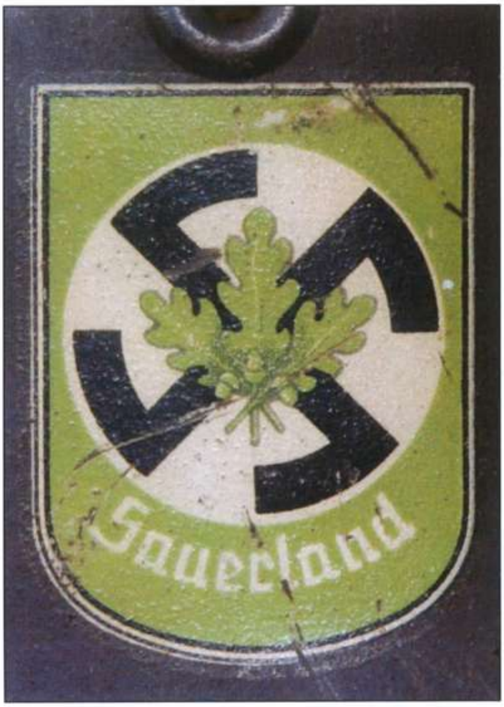


Photo showing the rare TeNo eagle with swastika and superimposed TN gear. (Courtesy R. Richter)

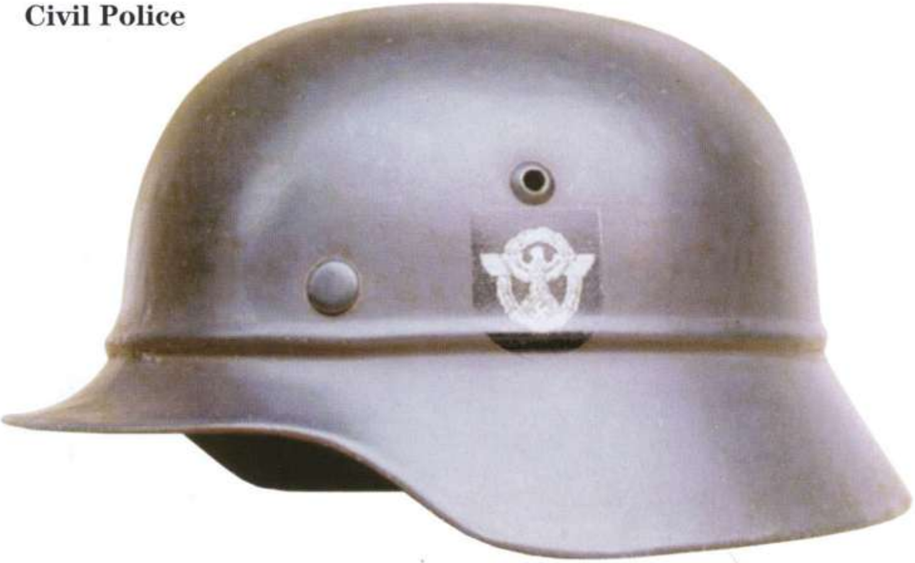
Freikorps Sauerland



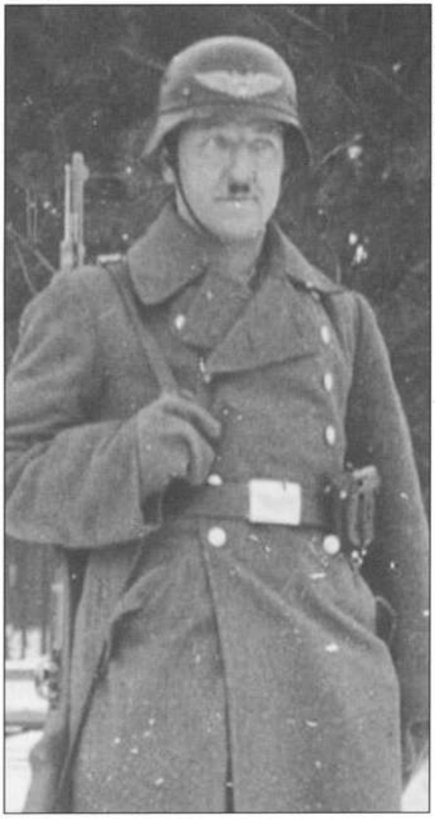
A rare example of an M42 helmet with the insignia of the *"Freikorps Sauerland,"* formed in the Sauerland region in the autumn of 1944 as one of the larger and better organized *Volksturm* units. (Don Troiani Collection, photo copyright Don Troiani)



A close-up of the Sauerland decal. (Don Troiani Collection, photo copyright Don Troiani)

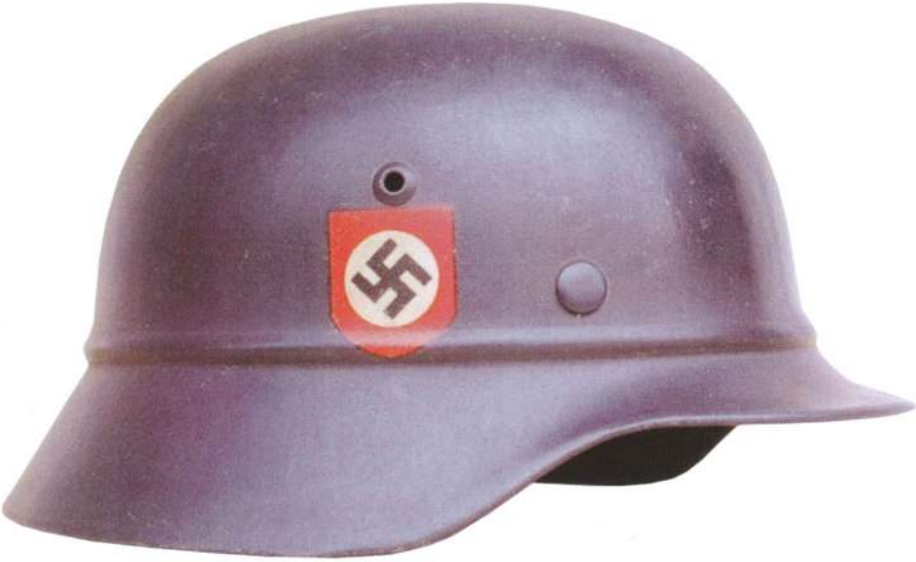


Helmets which did not pass quality control standards set down by the military procurement offices would be relegated to other uses. Once a helmet shell had been produced, a significant cost had already been expended. It made sense economically to make use of the shell in some other fashion rather than to re-cycle it simply for scrap metal. In such instances, the defective helmet shell was installed in a jig, a bead was stretched into it around the base of the dome (to readily indicate it as not to be delivered for military contract) and it was set aside for other purposes. One of these purposes was the subsequent sale of the helmet shell to private companies engaged in the production of civil-weight helmets for "private purchase" to members of para-military formations who were responsible for the purchase of their own uniforms and equipment. The helmet shown above is an example of such a case. Produced by the Emaillerwerk plant at Fulda (size stamped EF62) it was subsequently fitted as a helmet intended for members of the civil police. Many such examples are seen utilized by members of the civil air defense organization *(Luftschutz)* as well as other formations. (Courtesy C. Grayland)

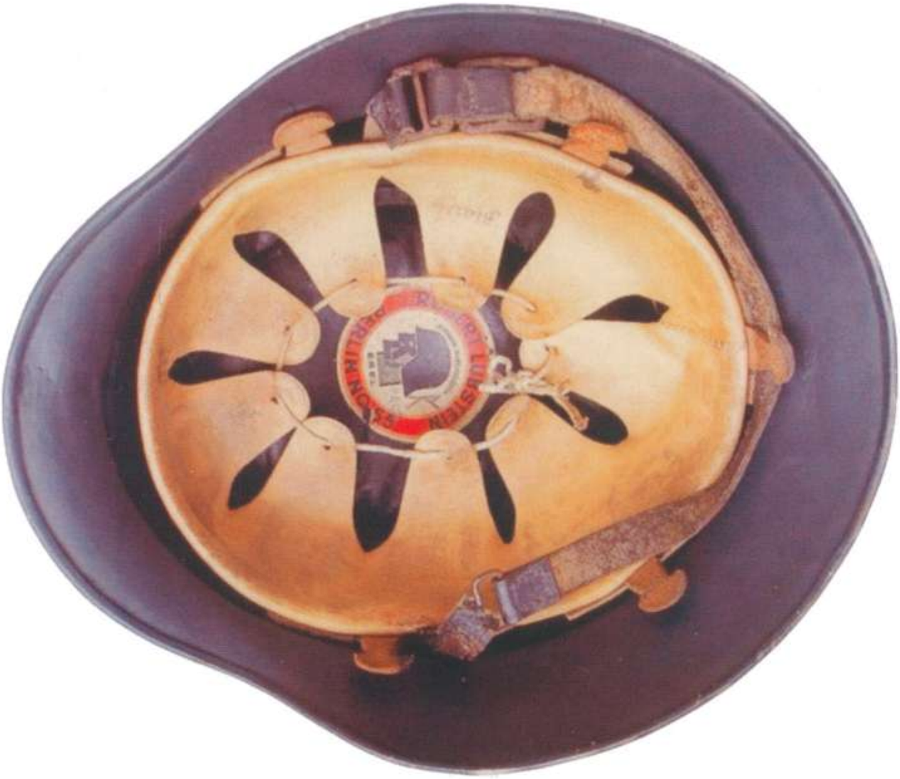


Otto Spronk Photo Collection

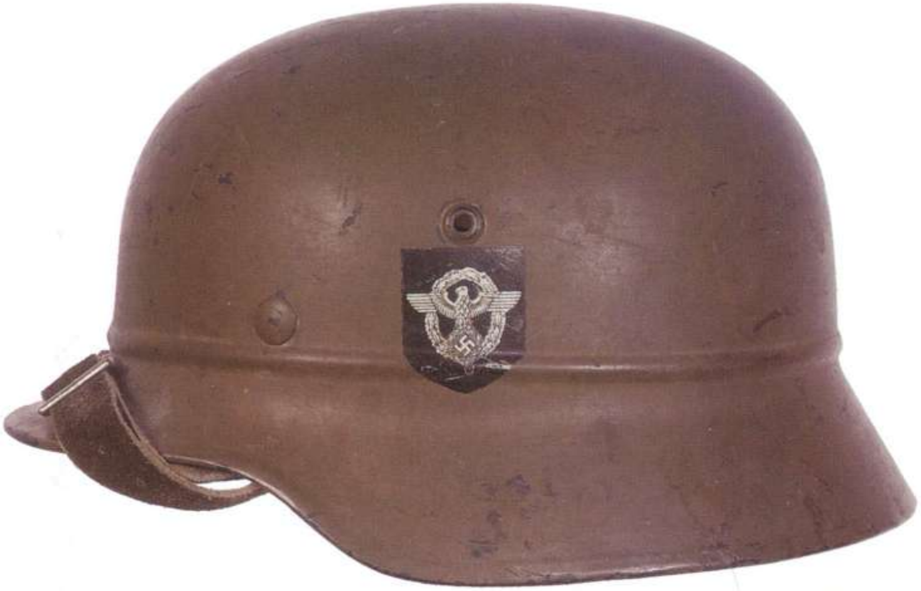
This *Lufschutz* guard wears a helmet as described above.



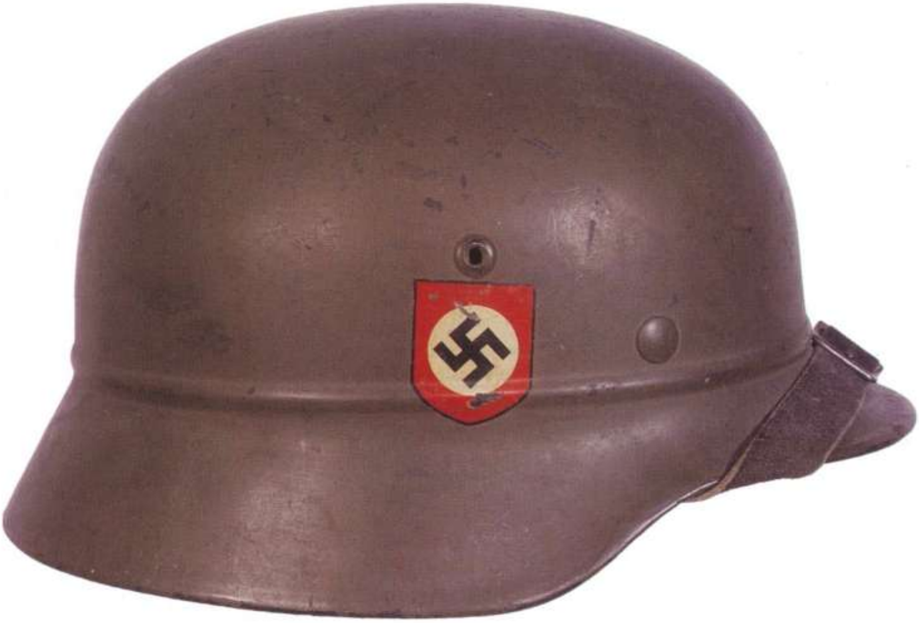
Right hand view showing the Party decal used by the civil police.



This view shows a civilian type liner installed by the contractor who obtained the "rejected" helmet shell from Emaillerwerk. In this case, the contractor was the prestigious Robert Lubstein firm of Berlin. The helmet was then marketed in the private sector through the sales office of the Robert Lubstein company.

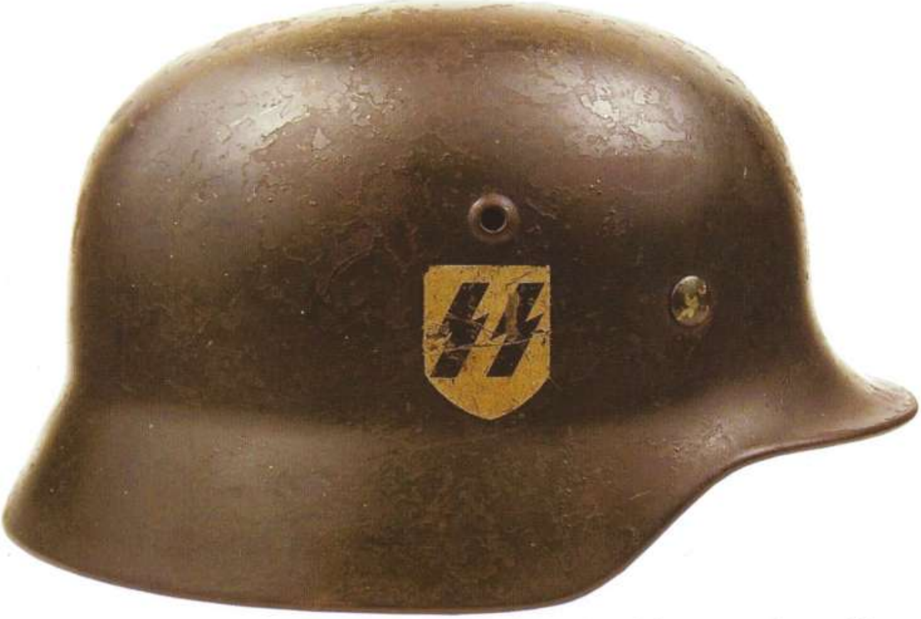


Another example of a civil police helmet produced using a helmet shell which was declared defective for military usage. This example was painted in "ordnance tan" before the application of the police insignia. As with other helmets of this type, the shell has been fitted with a civil-type liner and chinstrap. (Don Troiani Collection, photo copyright Don Troiani)

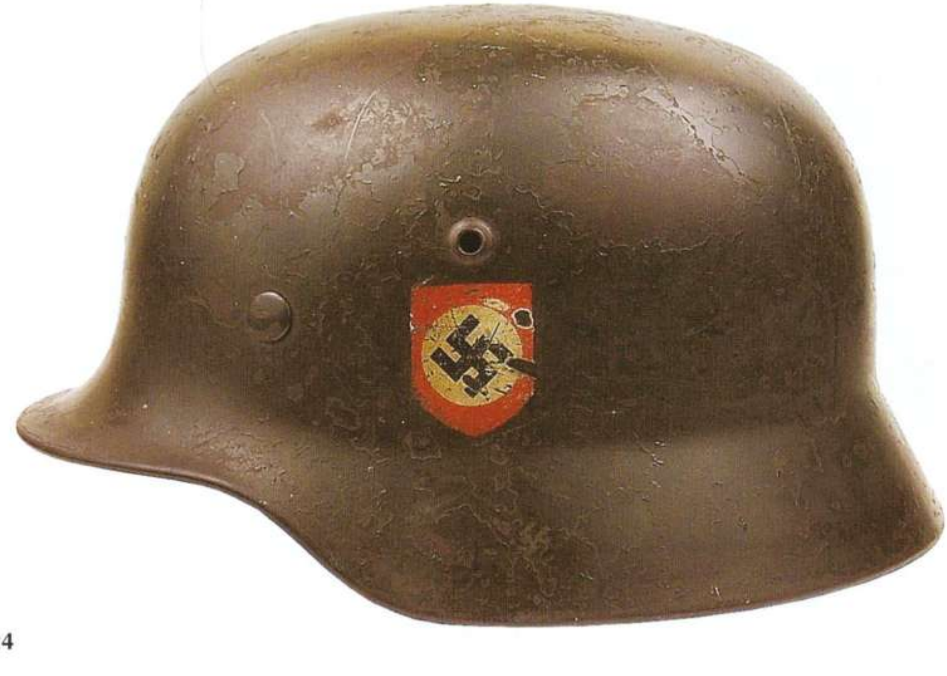


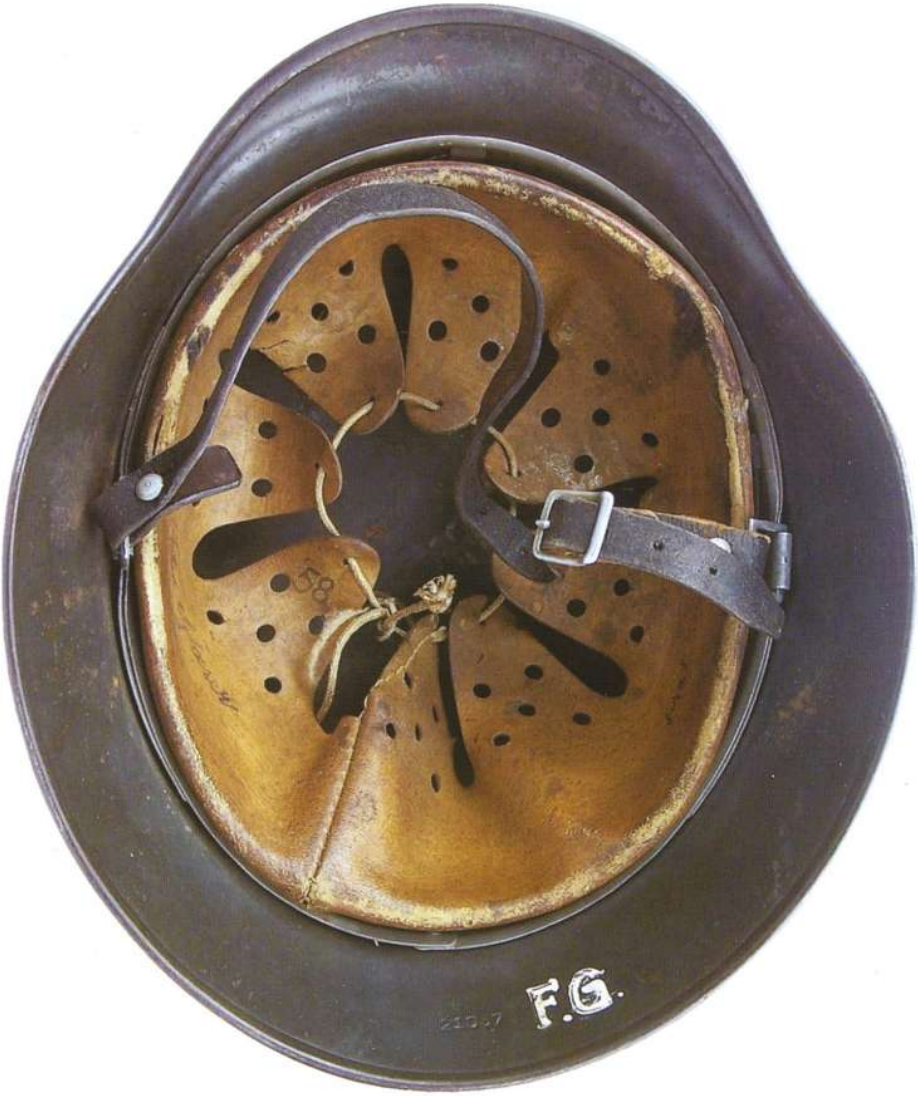
Right side view of the "ordnance tan" colored civil police helmet. One theory is that the color of the helmet shell indicated its use by a civil police organization which acted as an auxiliary unit at or near the front. (Don Troiani Collection, photo copyright Don Troiani)

SS Totenkopf Sturmbann (Concentration Camp Unit)



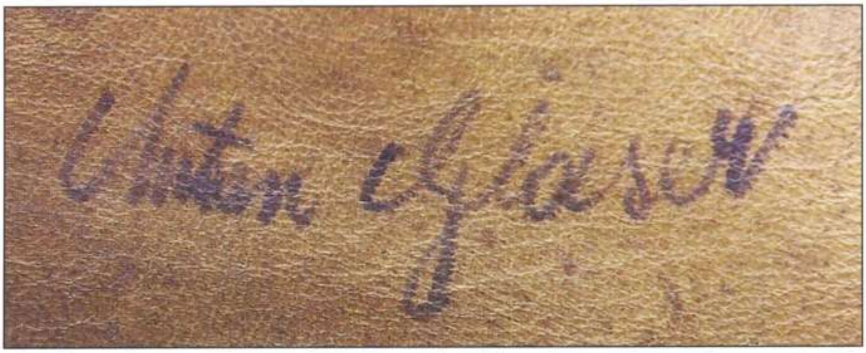
This is an example of a 1938 dated M35 double decal SS helmet manufactured by Quist and bearing Quist pattern insignias. Although it was produced as a combat model, this specific helmet is known to have been in a non-combat situation. It was issued to at least two different SS men who served as members of the *SS-Totenkopf Sturmbann* at Auschwitz concentration camp. The fact that it was reissued within the same unit denotes that it was most likely "camp property" and was drawn from camp supply stores.



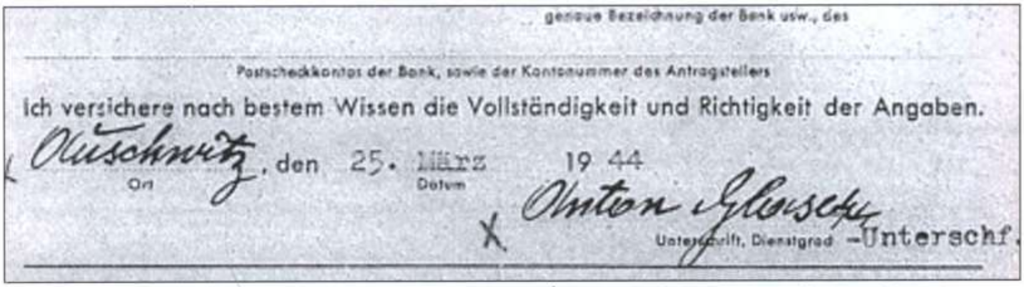


The liner of this "camp" helmet is inscribed with two signatures, both of which have been identified as SS NCOs serving in *"T-Stuba Auschwitz."*

◀ The left hand side shows the Quist pattern Party shield.



The above signature is that of *SS-Unterscharführer* Anton Glaser who served with 1.Kompanie/*SS-T-Stuba "Auschwitz"* from October 1940 until at least the middle of 1944. *SS-Uscha.* Glaser served as a perimeter guard and later as a driver in the motor pool during which time he was responsible for driving the officer of the day to the selection ramps. Testimony at the Frankfurt "Auschwitz trials" of 1964-65 implicates him in the execution of some 20 inmates (According to the author Bernd Naumann in "A report on the proceedings against Robert Karl Ludwig Mulka and others before the court at Frankfurt," published by Frederick A. Praeger, Inc. Publishers, 1966).



genaue Bezeichnung der Bank usw., des

Postscheckkontos der Bank, sowie der Kontonummer des Antragstellers

Ich versichere nach bestem Wissen die Vollständigkeit und Richtigkeit der Angaben.

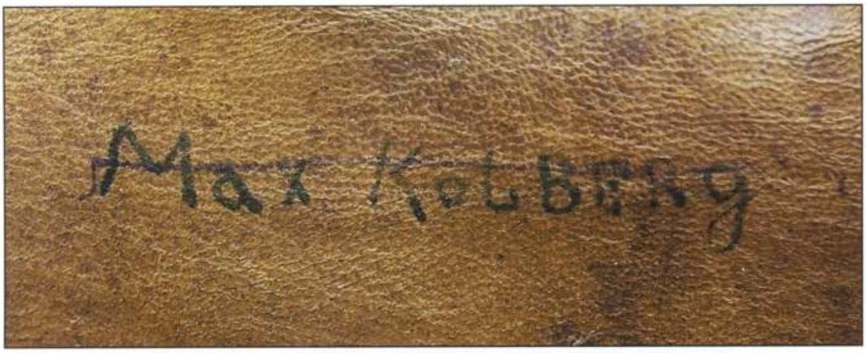
x Auschwitz, den 25. März 1944

Ort Datum

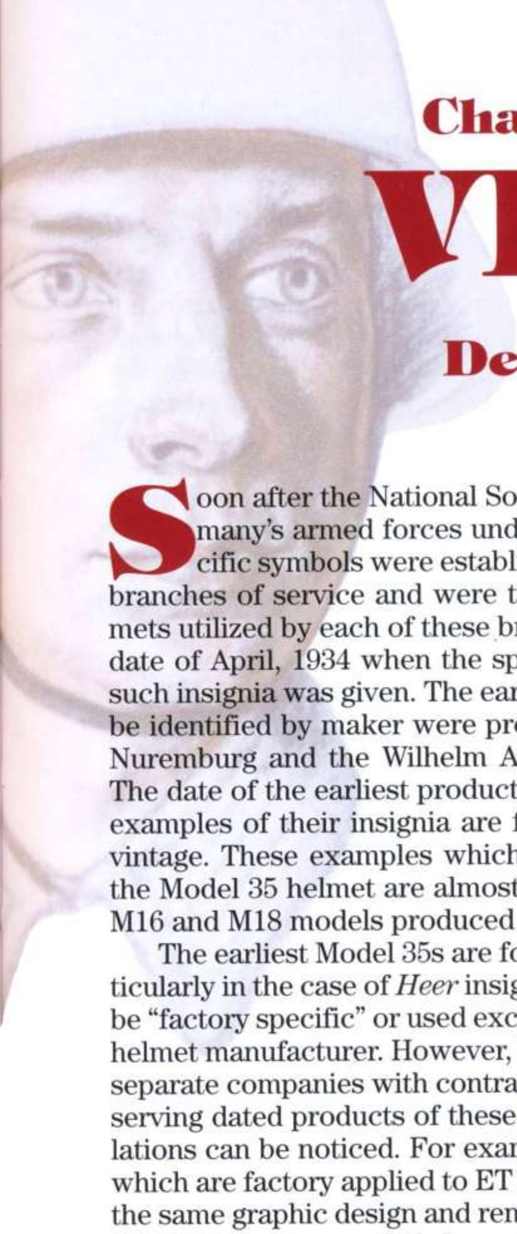
x Anton Glaser

Unterschrift, Dienstgrad -Unterschf.

This portion of an allotment application signed at Auschwitz in March 1944 bears Glaser's signature which matches that found written on the liner in the above photo.



The above name "Max Kolberg" is also found inside the liner and is also identified by documentation as an *SS-Unterscharführer* at Auschwitz.



Chapter VIII

Decals

Soon after the National Socialists rose to power in 1933, Germany's armed forces underwent a radical reformation. Specific symbols were established as the insignia for each of the branches of service and were to be applied in decal form to helmets utilized by each of these branches. Ludwig Baer provides the date of April, 1934 when the specific order for the application of such insignia was given. The earliest insignia which are possible to be identified by maker were produced by the C.A. Pocher firm of Nuremburg and the Wilhelm Abels lithography firm of Cologne. The date of the earliest production by these firms is unknown but examples of their insignia are found on helmets that are of 1934 vintage. These examples which pre-date the advent and issue of the Model 35 helmet are almost universally found to be reworked M16 and M18 models produced prior to the end of WWI.

The earliest Model 35s are found with a variety of insignia (particularly in the case of *Heer* insignia), none of which are believed to be "factory specific" or used exclusively for application by a certain helmet manufacturer. However, by the end of 1936, there were four separate companies with contracts for the Model 35 helmet. By observing dated products of these four manufacturers, certain correlations can be noticed. For example, it appears that *Heer* insignias which are factory applied to ET helmets dated 1936 and later are of the same graphic design and remain consistently so until the end of decal application in 1943. Later in this chapter, there are numerous other examples of such correlation between helmet manufacturer and applied insignia. The degree of this correlation varies among the different manufacturers; ET and Q helmets displaying the higher degrees of consistency while EF and SE show lesser degrees. The degree also varies according to the time-frame in which these helmets were produced as changes are observed when examining helmets spanning the years of production.

It should be understood that during the period of the Third Reich, insignia were placed on helmets for the purpose of denoting the branch of service. No such specific records are likely to have been kept and almost certainly no such records exist today that would give any weight to the above thesis. The idea of decal/maker correlation is born exclusively from the examination of surviving examples. Exceptions to these correlations are not evidence of their invalidity but rather may be a result of irregularities in supply that logically would have existed during the time these helmets were manufactured.

The subject of decal/maker correlation applies only to surviving examples that are found in factory issued condition. As stated earlier, there are many helmets that have been period modified by the German military. Such reworked and reissued helmets would logically fall outside the parameters described above.

Among *Heer* decals, there is a wide variety of "after-market" types that were meant to be applied at either unit level or by after-the-factory refurbishing facilities. In the case of SS helmets that were modified after leaving the factory, the Pocher decal is recognized as the main decal used in "after-market" application. *Luftwaffe* reissued helmets appear to have the least variation between factory-applied insignias and after-market types. Regarding *Kriegsmarine* reissued helmets, the relatively small number of surviving examples makes it difficult to arrive at a well-founded conclusion, but as in the case of *Luftwaffe* reissues, the helmets reissued for use by the naval services show few variations in after-market applied decals.

The correct and exact application of decals appears to have depended upon the quality control which existed at any given time, either at the factories, at installations which served as refurbishment depots or at unit level. From the observation of original examples, it appears that the level of this quality control was not always consistent. The best quality control appears evident in helmets of early production. In the vast majority of specimens seen today, the positioning of the decal with respect to the air-vent grommet remains very consistent. Wartime factory finished helmets show a minor decline in the consistency of decal placement. This is most evident in the case of *Luftwaffe* decals. The dimensions and graphic design of the *Luftwaffe* decal apparently made it difficult to properly align with the air-vent. Added to this were the difficulties in application caused by the individual legs of the swastika. Many examples of *Luftwaffe* insignias exist that show a general misalignment of the decal in respect to the air-vent, stretching or incorrect bending of the wings as well as folding over of the wing-tips or individual legs of the swastika. Many examples exist of multiple layers of the *Luftwaffe* decal caused by one decal being placed over another, possibly in an attempt to "get it right" after the first failed attempt. Generally, decals of all service branches that were applied at unit level or at refurbishment facilities suffer more from misalignment than do decals that were factory applied. It might be assumed that factory decals were more precise simply because they were applied by hands that were more practiced. An exception to this is often found with ET/CKL M40 and M42 SS helmets. These helmets are notorious for the many examples found to have misaligned decals. Often the angles are drastically canted. Theories are discussed as to whether this was done for some purpose or whether it is accidental, but none can be considered conclusive.

Certainly the worst cases of misalignment are found in wartime refurbished WWI helmets. This may be the result of the difference in the design of the M16/18 helmet shells themselves or may be due to a lesser degree of quality control with helmets that were considered to be obsolete in any case.

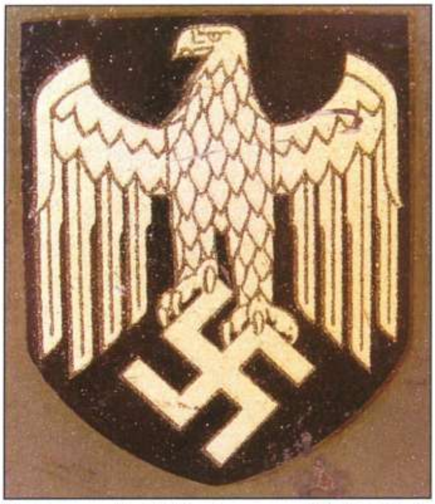
Heer Decals

The heraldic eagle insignia of the regular army was instituted in 1934. As a helmet insignia it remained constant and without significant variation or change in the graphic design for the entire time it was used. As stated above, variations exist among decal manufacturers and the use of specific types by each of the five helmet factories is generally observed. However; the differences in the variants has little to do with major changes in design but rather the more subtle characteristics of the thickness, color, composition and exact graphics of detail lines.

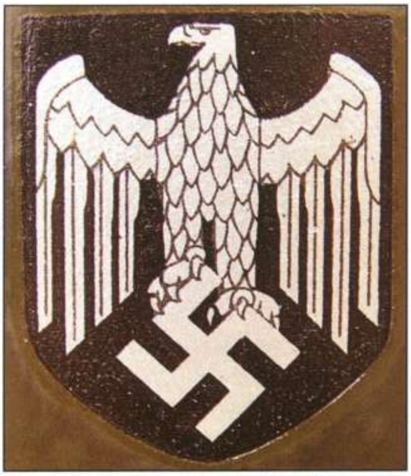
The appearance of the Q manufactured "big foot" eagle seems to differ most from the norm due to the clear non-shaded detail lines as well as the design of the eagle's head with it's narrow beak. Decals that are specific to the other makers tend to have more similarities to each other. In after-market decals that appear on period modified helmets, there is found to be more variation especially with regard to detail lines but also including different compositions of background material.

Heer Factory Applied Decals

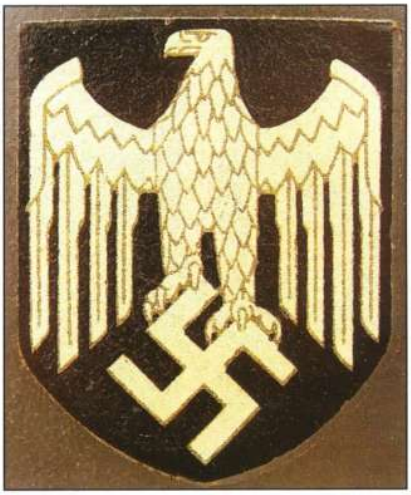
There are three main variants of factory applied *Heer* decals. All are water transfer types (when found in un-issued state on their original backing paper, they are seen to be "face up") as opposed to the "after market" types which are almost universally "face down" or lacquer transfer types. Water transfer decals are easier and faster to apply to helmets and thus are better suited for mass production. However, due to the two stages of transfer (actual transfer with water and the later sealing process by lacquer coating) they require a more controlled environment and space for storage in between the two processes.



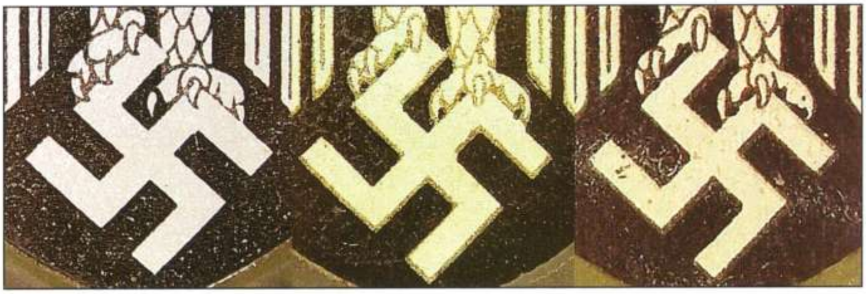
The first (and probably the earliest) "factory specific" style is known to collectors as the ET decal. The ET factory was the most consistent as far as the type of *Heer* decal used. Although ET sometimes applied other decals in the earliest months of production, by 1936 this decal became the only one used. It is found on virtually all ET factory finished helmets from 1936 until 1943. It is also found on certain helmets manufactured by the SE and EF factories, as well as on a variety of re-issued helmets. The above example is found on a 1935 dated, ET produced M35 *Heer* helmet.



The above decal is the type known as the "bigfoot" or "Q" variant. It is found on the vast majority of Q manufactured helmets between 1936 and 1943. Some 1936 dated Quist helmets are found with Pocher decals and some late production Quist specimens are seen to bear non-Q variants. But during most of the time in between, it would appear that the F.W. Quist plant was well supplied with its own particular insignia. Unlike the ET style decal, this "bigfoot" decal is not known to have been found on helmets of other manufacturers or applied to reissues. The appearance of the Q manufactured "bigfoot" eagle seems to differ most from the norm due to the clear non-shaded detail lines as well as the narrow design of the eagle's head.



This *Heer* decal is the one most commonly used by the NS maker. It is also found on helmets of SE and EF manufactures as well as reissues. Very slight variations are found but are attributed to differences in printing runs. It is manufactured by C.A. Pocher of Nuremburg.



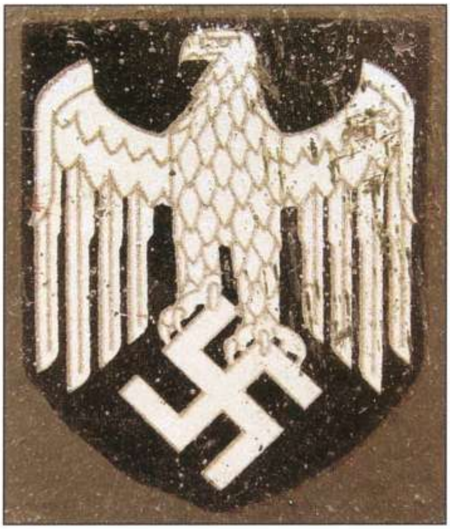
The differences in the three "main" factory applied decals are most clearly observed in the feet of the eagle. At left is the Q pattern decal showing the thick left foot. The middle decal is the NS or Pocher type which is most recognizable due to the detail lines in the far right talon. The ET style at right shows the visible dimple in the far right talon.

With the exceptions described above in regards to very early or very late production taken into account; the following table illustrates which decals were utilized by which helmet manufacturers and vice-versa.

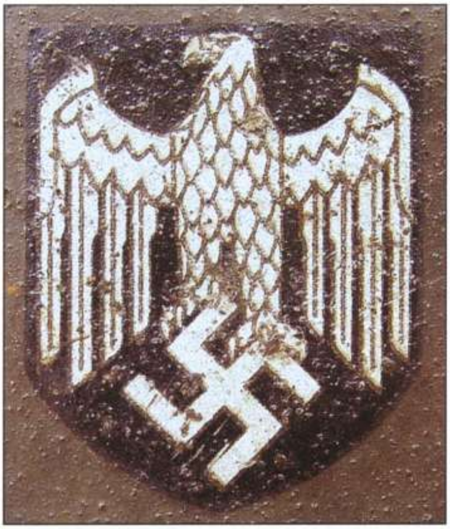
Helmet manufacturer	Decal used
ET	ET
SE	ET or NS
Q	Q
NS	NS
EF	ET or NS

The below table shows the helmets upon which the 3 different main decal variants are found.

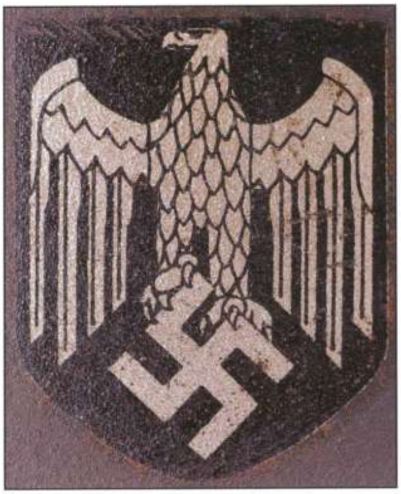
Decal Type	Helmet Manufacturer
ET	ET, SE and EF
Q	Q
NS	NS, SE and EF



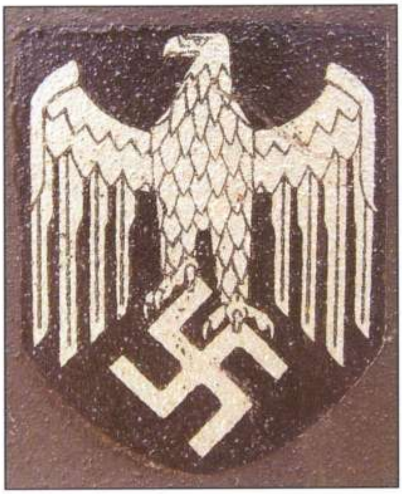
ET decal applied on a wartime finished helmet. The appearance is altered slightly due to the textured paint upon which they were applied after 1940.



A later variant of the ET decal. Note the relative thickness of the detail lines. This decal is often found on M42 helmets which are of 1943 vintage. It is also found on reissued helmets.



Q decal applied on a wartime finished helmet. (Courtesy G. McIntyre)

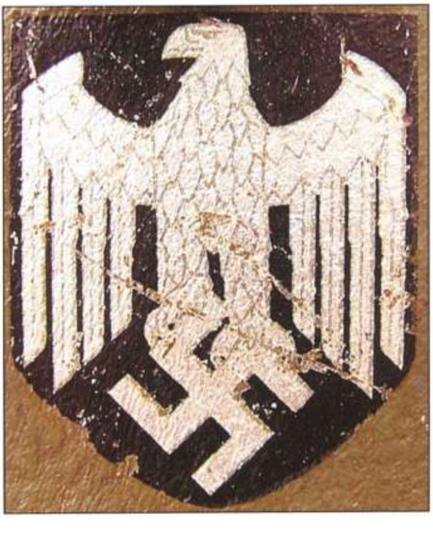


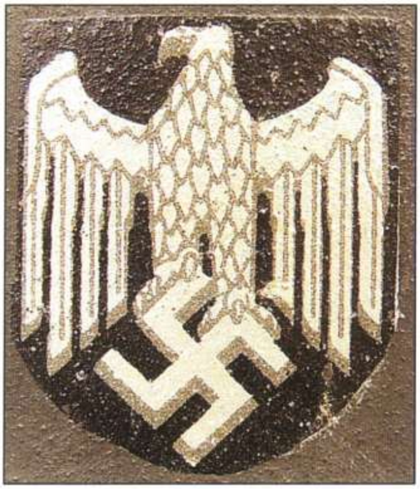
NS decal applied on a wartime finished helmet.

Heer "Reissue" Decals

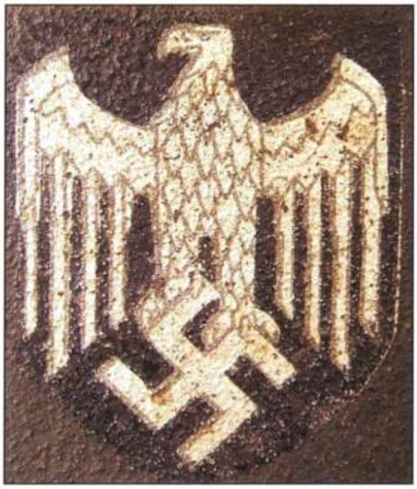
The following section shows a variety of *Heer* eagle decals which are encountered on re-issue helmets. Most of these types are seldom encountered on factory finished helmets. In most cases, the decal manufacturer is unknown. In these "after-market" decals, there is a considerable amount of variation especially with regard to detail lines, but also including different compositions of background material. "Reissue" decals are in almost all cases found to be "face down" or lacquer applied types; the process of lacquer based application likely being more suitable for non-factory environments.

Although not positively identified by maker, this is one of the earliest variants to be identified. It has long been known as the "grey-lined" *Heer* decal. It is commonly found on early "transitional" helmets and is one of the few "non-factory specific" decals that have been seen applied to 1935-36 dated factory finished M35 helmets. In early M35 production, it was used in conjunction with factory-specific decals while supply methods were still being worked out.

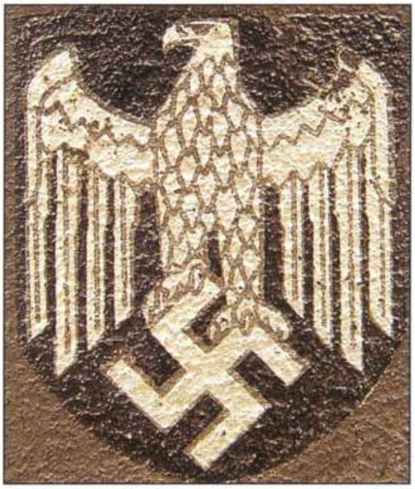




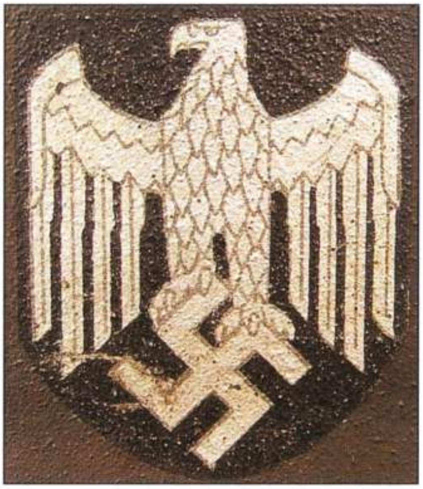
This decal shows heavy detail lines which are off-set, probably due to printing error. It is found on an M35 reissue.



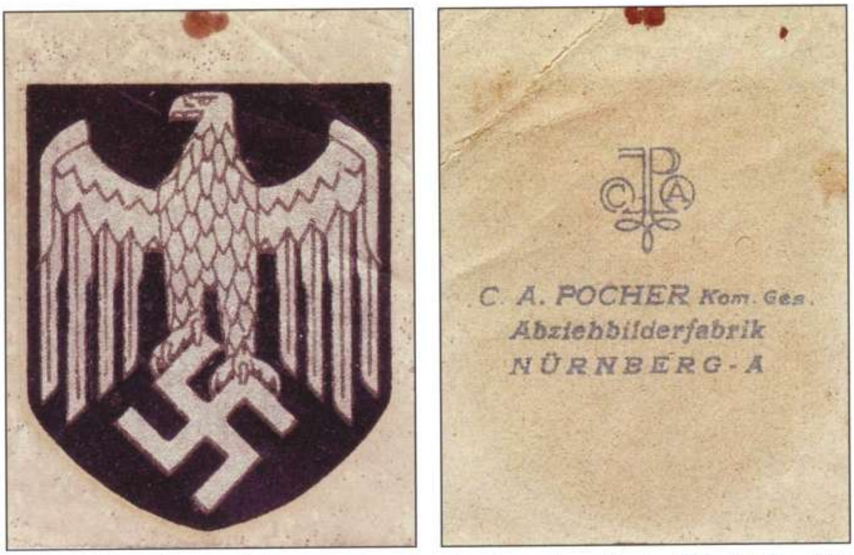
This decal is normally found on later war reissues, particularly helmet shells which are of WWI vintage.



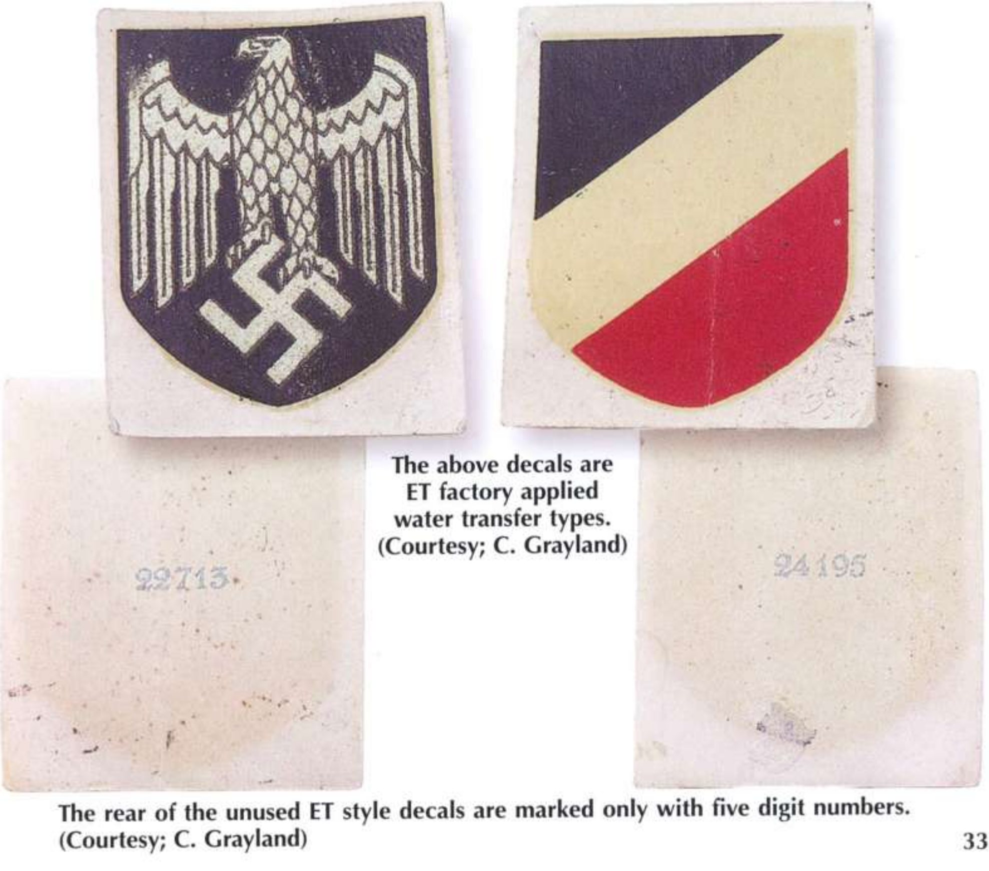
This decal has very thick detail lines. It is found generally on late-war reissues.



This reissue decal is most recognized by the down-turned point at the tip of the eagle's beak. It is another of the types that are commonly found on WWI era helmets that have been refurbished for use by the *Wehrmacht.*



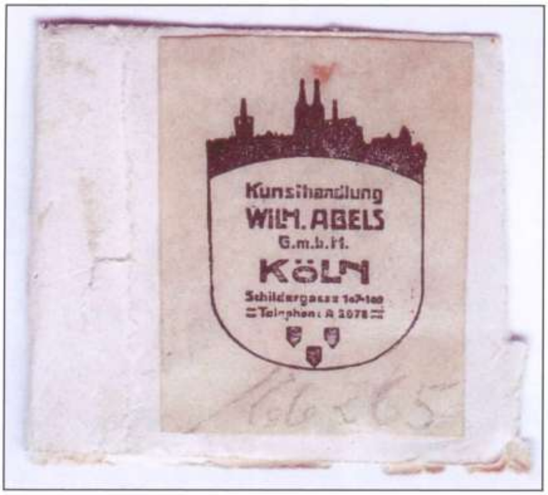
An unused specimen of the water transfer decal produced by by C.A. Pocher. This decal is perhaps the most widely used. It appears on factory finished helmets of NS, SE and EF manufacture as well as reissues dating from 1935 to 1943.



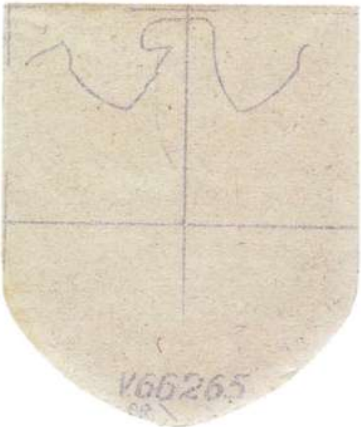
The above decals are ET factory applied water transfer types. (Courtesy; C. Grayland)

The rear of the unused ET style decals are marked only with five digit numbers. (Courtesy; C. Grayland)

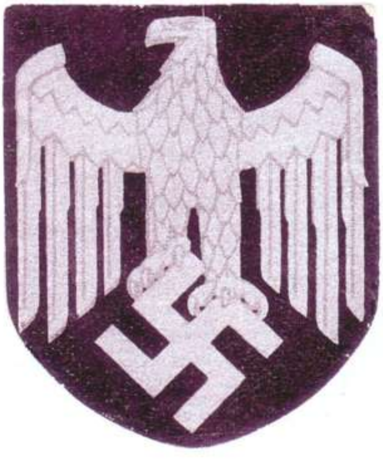
There are numerous surviving examples of unused face-down (lacquer transfer) decals which are labeled by various manufacturers and are thus identified.



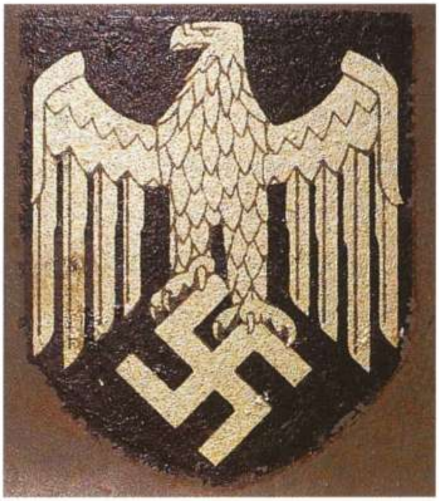
An original package which contained some 20-25 decals. The manufacturer is the Wilhelm Abels lithography firm of Cologne. One of the earliest identified Third Reich helmet insignias, the Abels decal was used as early as 1935 and has appeared both on factory finished helmets as well as reissued WWI transition helmets. Note that a control number has been handwritten on this packet which matches the printed number appearing on each decal contained inside.



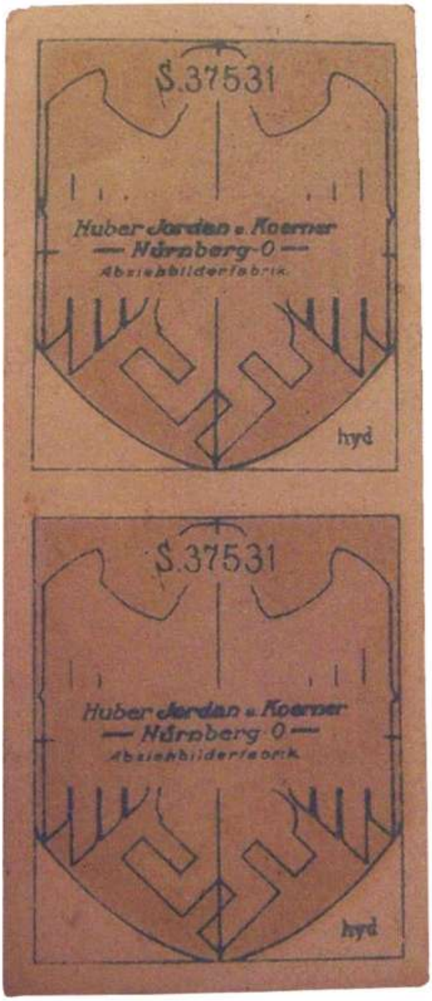
The Wilhelm Abels decal is a face-down lacquer applied decal. Note the control number which is printed on the back is the same which is handwritten on the above package from which this decal came. These decals were backed on pre-cut shield-shaped paper.



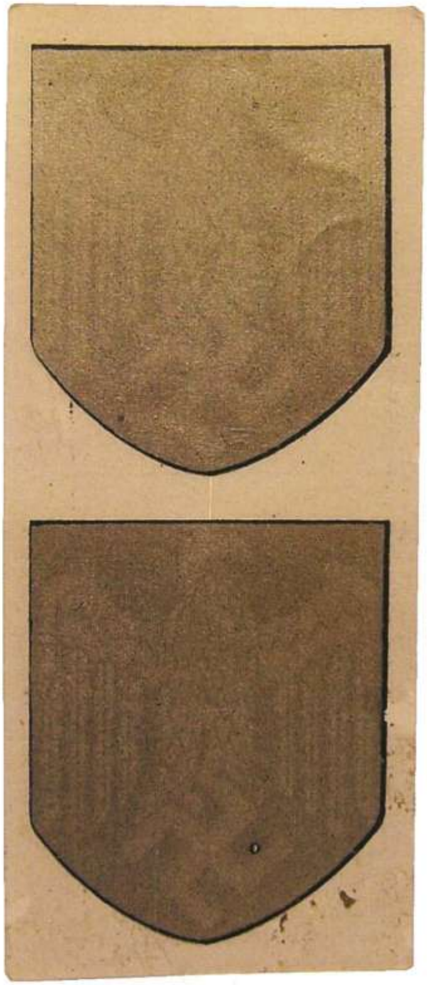
This is a proof copy of the Wilhelm Abels decal which was included in the original package. It is printed face-up on a backing card as a means of identifying how the applied Abels decal would appear.



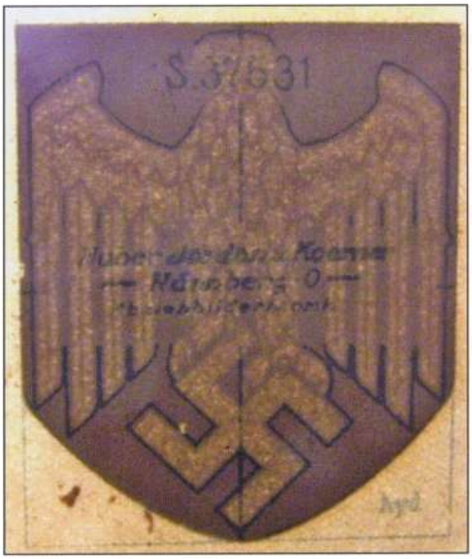
The Abels decal as it appears having been factory applied to an early M35 helmet. As noted above, a variety of non-factory-specific decals are found on M35 helmets manufactured in the first months of production. (Courtesy G. Spadaro)



This is a sheet of unused decals manufactured by Huber Jordan u. Koerner of Nuremberg. Huber Jordan decals are packaged in sheets of two decals each.

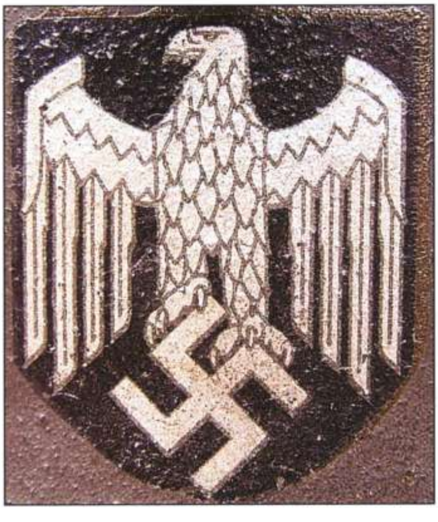


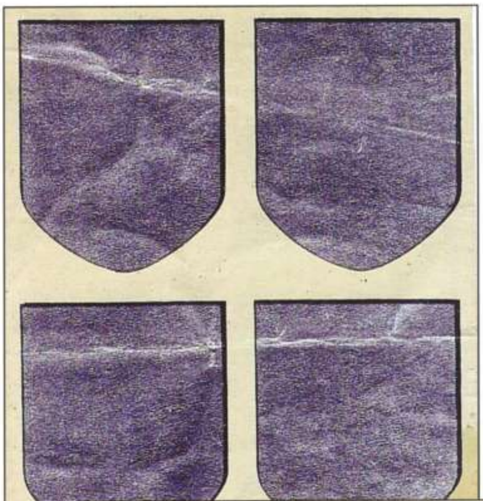
The reverse side of a pair of Huber Jordan decals.



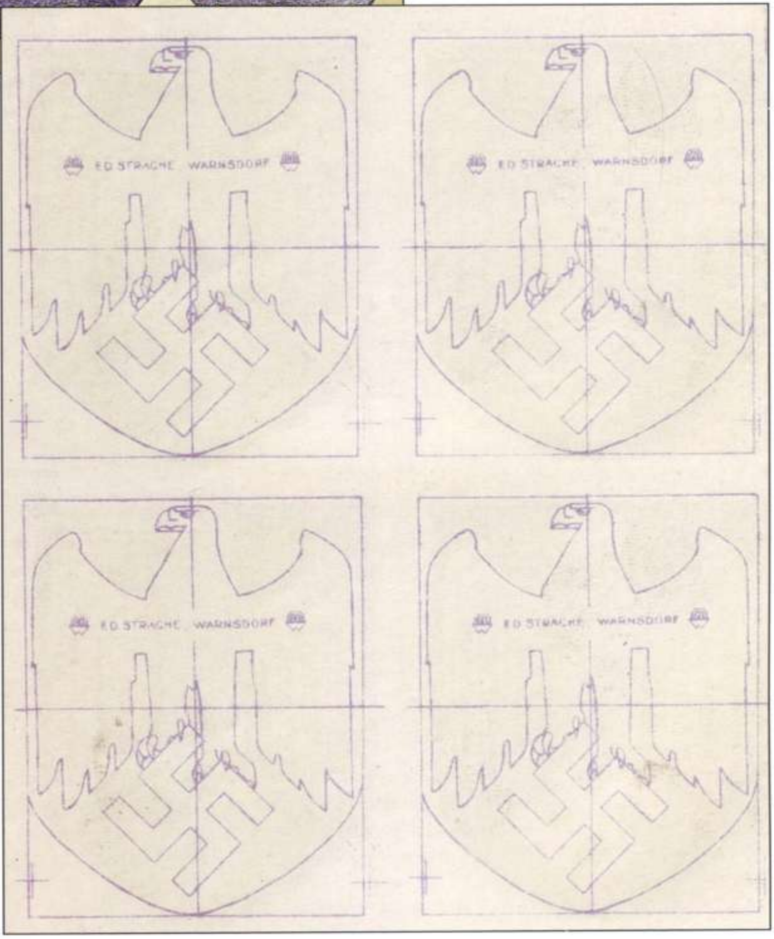
Details of the Jordan decal show through the paper when held up to a bright light.

This Huber Jordan u. Koerner decal is applied to a post-1940 reworked helmet. It is most recognizable by the features of both feet.

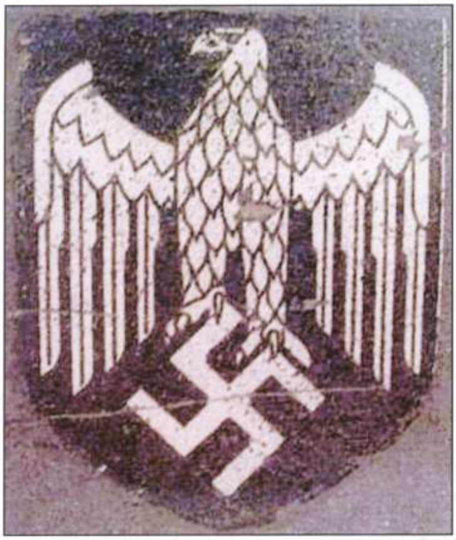




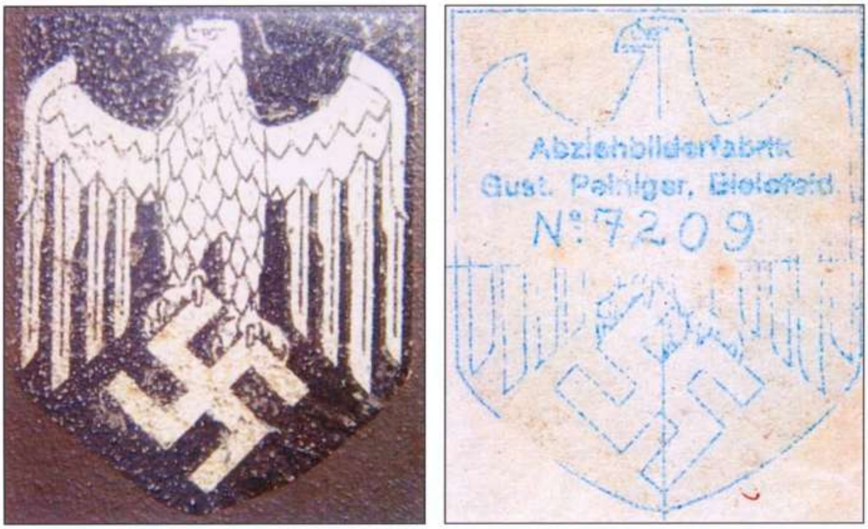
The decal which is most commonly found in an unused state is that produced by the Ed Strache printing firm of Warnsdorf. This is a lacquer-applied decal which is printed in reverse on the backing paper. The silver layer shown would be the underlying layer once the decal is applied to a helmet. The Ed Strache decal was packaged in sheets of four decals.



This obverse side of the Ed Strache decal has details and vertical/horizontal lines printed onto the backing paper as a guide to aid in the proper alignment of the decal during application.



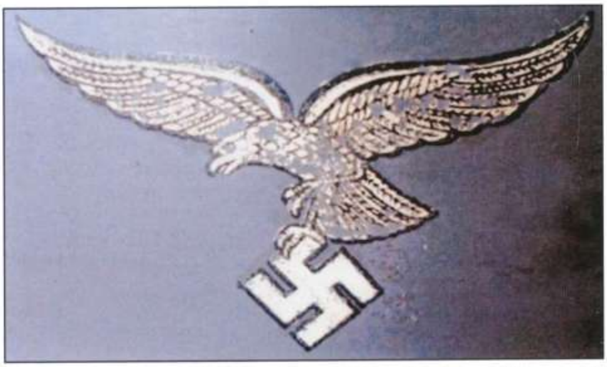
This is an applied Ed Strache decal. This decal is the subject of controversy in the collecting community. Few original examples are found which are known to be period applied. Since original unused examples have always been available in the collecting community, there is no doubt that many have been post-war applied to original no-decal helmets.



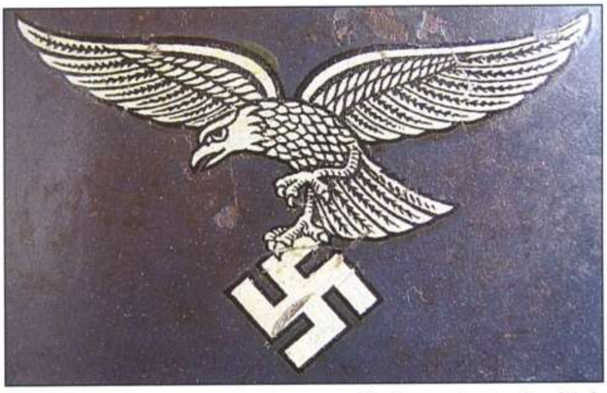
This is another example of a controversial decal manufactured by Gustav Peiniger, Beilefeld. Very few are seen which are believed to be period applied. Notwithstanding, certainly originally applied specimens exist. This example is on an M35 reissue of 1940 vintage. Note the unusually blunt beak of the eagle which is the most distinguishable characteristic of this variant.

Luftwaffe Decals

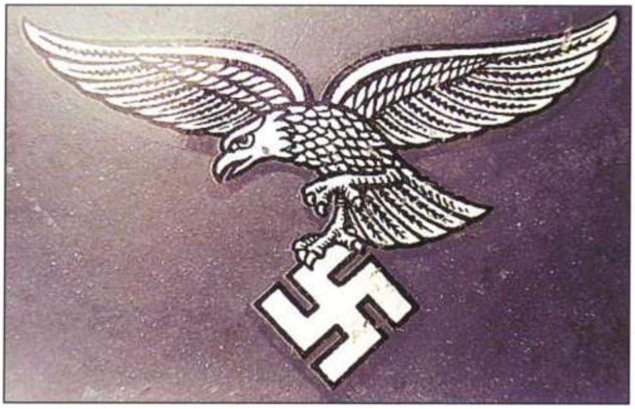
In the case of *Luftwaffe* decals, there are two main decal variants; the first being the "droop-tail" version and the second being the "stylized" version. The earliest known examples (mainly found to be of 1936-37 vintage) of *Luftwaffe* helmets bear the "snake-leg" variant of the droop-tail eagle. This decal may most appropriately be termed the "first pattern" *Luftwaffe* eagle. The main feature of the droop-tail eagle is the cartoon-like nature of its graphic design. This cartoon-like design continued through the late 30s with the usage of what is known as the "straight-leg" droop-tail eagle whose main feature is the more angular elbow of the leg which holds the swastika. Decals of this type are found applied to helmets of various manufacturers dated between 1937 and 1940.



This is a rare example of one of the earliest *Luftwaffe* decals known. Note the features of the claws and wing detail lines as compared to later "droop-tail" eagle decals. This decal is often found applied to light-weight parade helmets but has occasionally been found on combat weight helmets as well, particularly early re-issues.



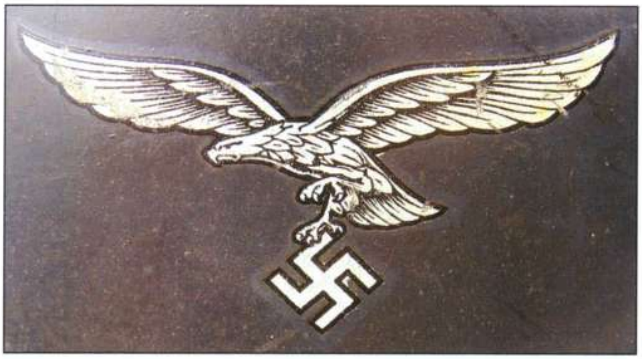
The *Luftwaffe* droop-tail decal with the so-called "snake-leg" which is seen applied to *Luftwaffe* helmets dated 1936 and 1937.



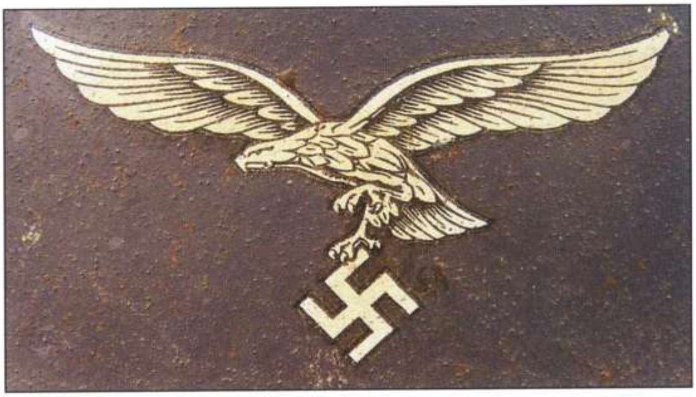
The straight-leg variant of the droop-tail eagle found on *Luftwaffe* helmets from 1937 until 1940.

Through the years, collectors have given the term "second pattern" to the stylized and more graphically life-like version of the *Luftwaffe* eagle. This decal is observed on helmets dated as early as 1937 and continued to be used on helmets of all makers in conjunction with the droop-tail eagle decal until the latter was phased out in 1939-1940. The reasons for two fairly different decals being used by all manufacturers for such a long period are unknown.

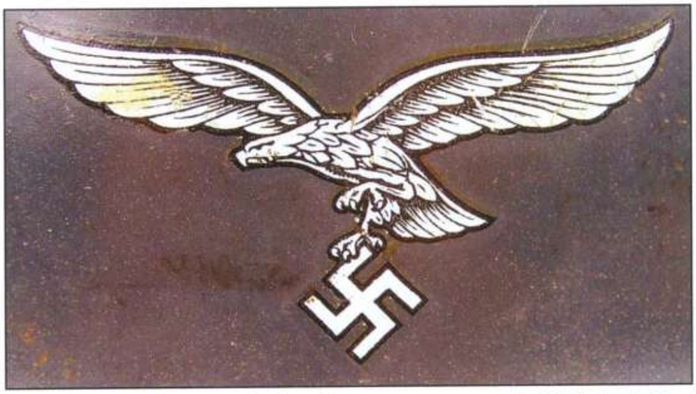
The stylized *Luftwaffe* eagle continued to be applied to helmets of all manufacturers until the end of decal application. Variations of this "second pattern" eagle decal are discussed below.



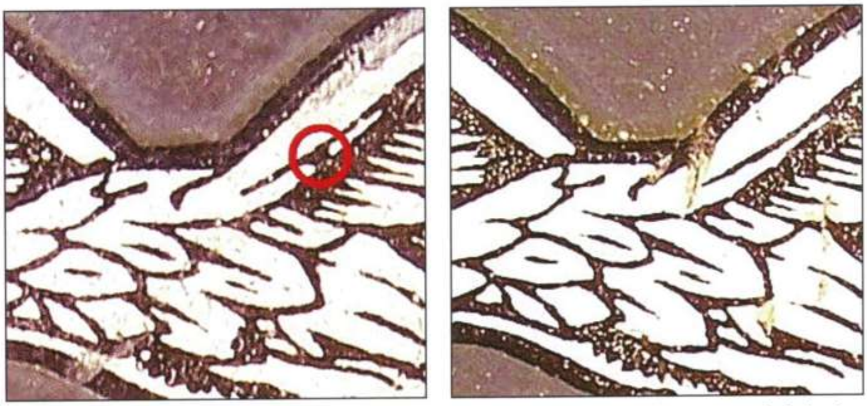
The stylized eagle decal is the most typical of *Luftwaffe* helmet insignias. Referred to as the "standard" or the "ET pattern" *Luftwaffe* decal, it appears on specimens dated 1937 to 1943. This example is found on an M35 helmet with smooth texture paint.



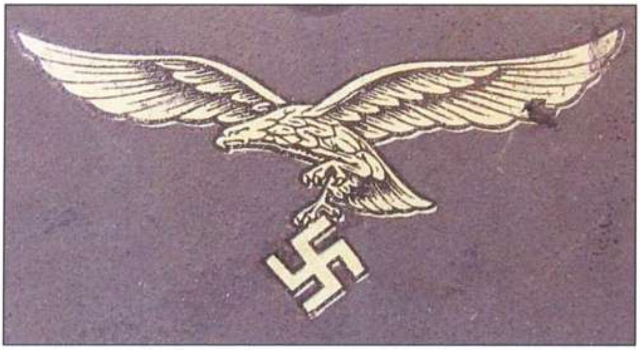
Another example of the "standard" or "ET style" *Luftwaffe* decal which has been applied to a wartime helmet with textured paint. Note the lacquered surfaces of this and the preceding decal.



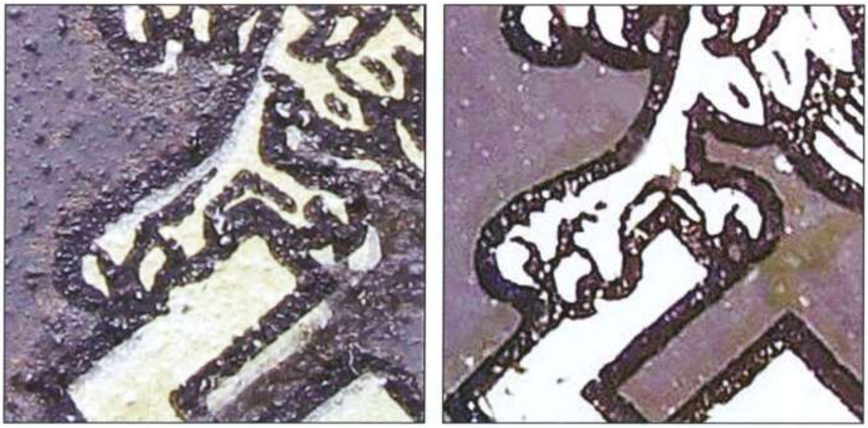
A fewer number of stylized eagle decals are encountered which lack the dot near the base of the right wing. (See following detail photo.) The maker is unknown and the insignia is normally found on ET or Q manufactured late M35s to early M40s.



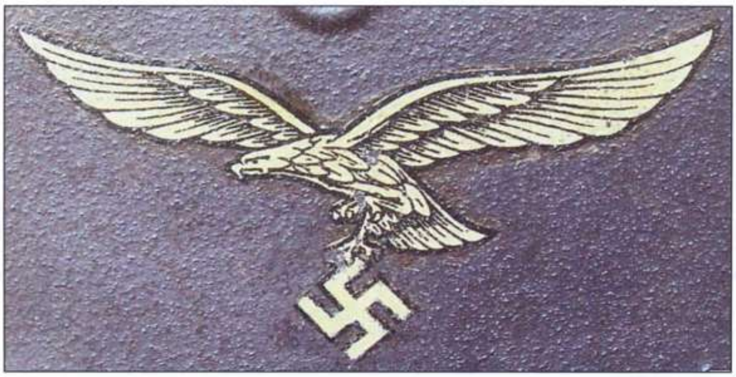
Close-ups of the same section of two stylized eagle decals. The one at left is the "standard" decal. Note the printed dot that appears as an interruption to the detail line of the right wing. The one at left is the variant without the dot.



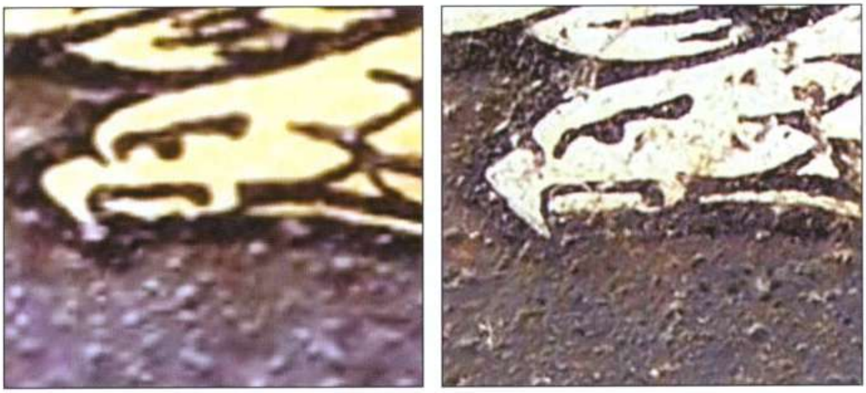
This *Luftwaffe* decal is another variant which is found on NS helmets. (Courtesy C. Wahlund)



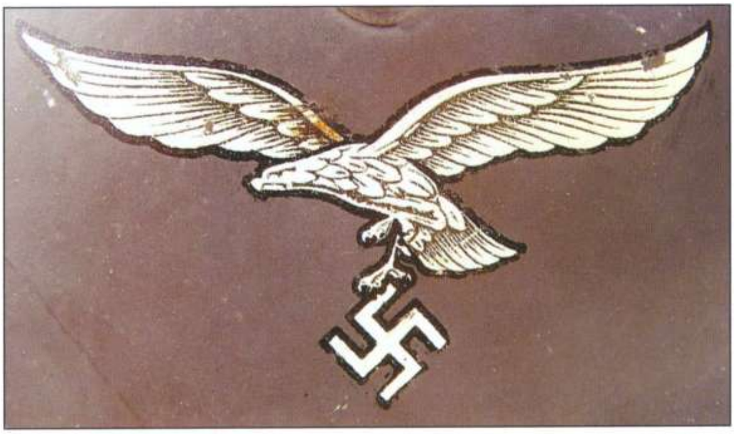
At left is a close-up of the claw found on the "NS" *Luftwaffe* decal. Note how the talon does not protrude into the arm of the swastika as it does with the "standard" decal at right.



This *Luftwaffe* eagle is specific to the EF maker. It can be recognized mainly by a single graphic feature found on the head of the eagle (see next page).

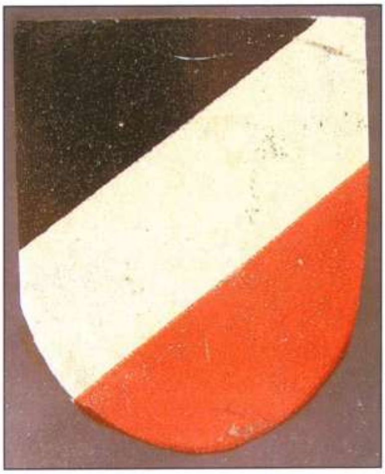


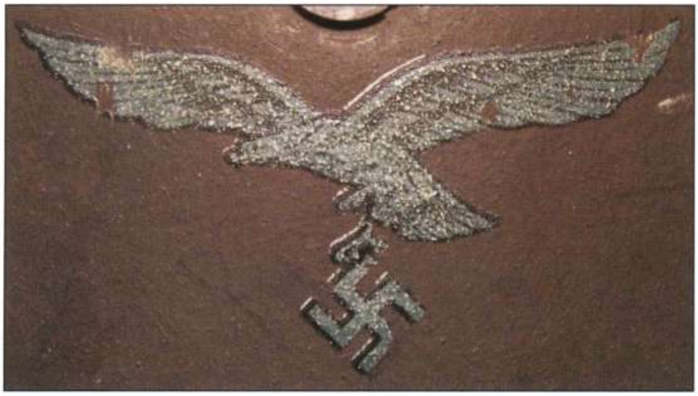
The EF style *Luftwaffe* eagle (left) has a down-turned eye-brow. It is shown here in comparison to the standard (and most common) pattern eagle whose eye-brow turns slightly upward.



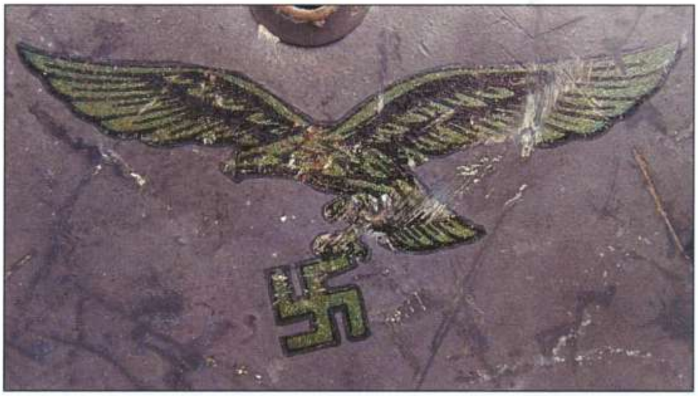
This thick bordered eagle decal is normally found in conjunction with the round-bottom national colors shield (shown below). It has been found on factory finished helmets as well as reissues. This example adorns a 1938 dated factory finished M35.

This round-bottom national colors shield is a variant which is usually found applied in conjunction with the heavy bordered *Luftwaffe* eagle. The manufacturer of these variant decals is unknown. They are most often found applied to helmets that have been reissued. Further, the quality of the work done in refurbishing these helmets suggests the refurbishment took place at well-equipped facilities rather than field depots. This round-bottom variant national colors decal is also commonly found on commercial/parade helmets used by *Luftwaffe* personnel.



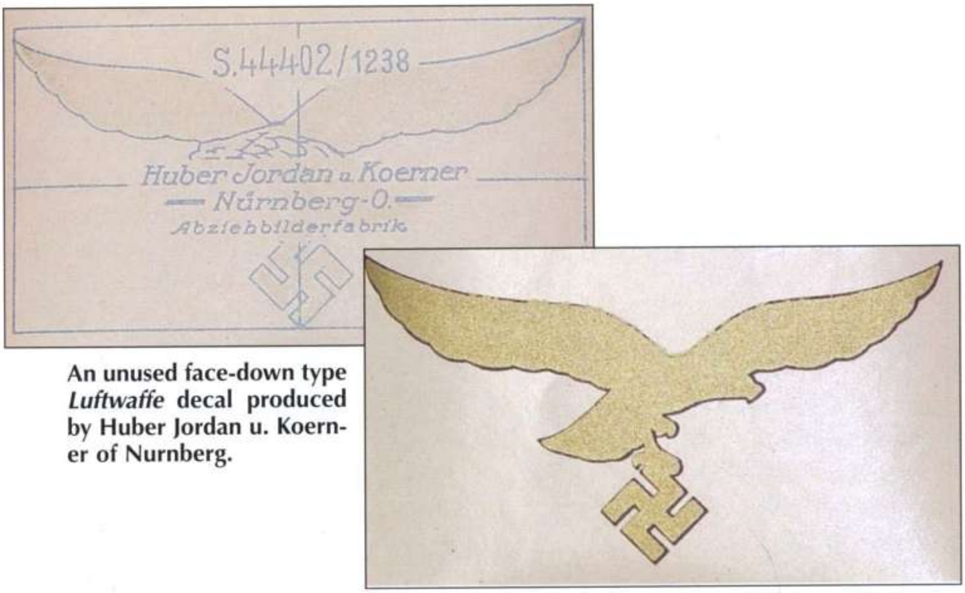


This is an example of the rare variant *Luftwaffe* decal which was produced with a blue tint. Printed by Huber Jordan u. Koerner, it is found on no specific helmet model in particular but appears to have mostly been applied during 1940. This example is on an M38 paratrooper helmet.

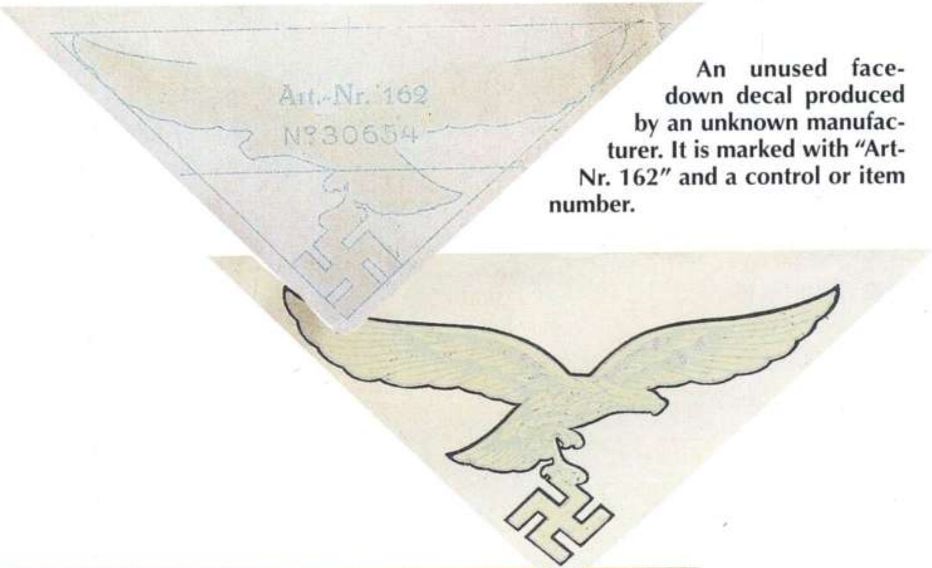


This is another example of a "subdued" decal produced by Huber Jordan. The color is grass-green. As is the case with most of these dark colored *Luftwaffe* eagles, this specimen appears on a reissued helmet.

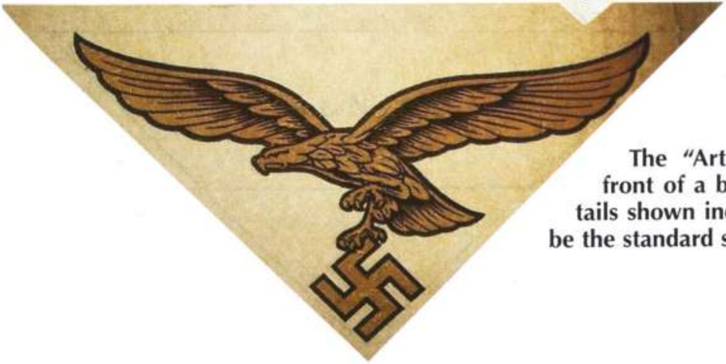
With regards to water transfer versus lacquer transfer *Luftwaffe* decals, the situation appears quite different from that encountered with the decals of other branches of service; every known example of an unused "stylized" or "second pattern" decal is the face-down lacquer applied type. Known factory-used variants (such as the NS or EF types) are seldom found in unused form so the transfer type of these decals cannot be confirmed. Nor can the transfer type of any "droop-tail" variants be confirmed due to the lack of surviving unused specimens.



An unused face-down type *Luftwaffe* decal produced by Huber Jordan u. Koerner of Nurnberg.



An unused face-down decal produced by an unknown manufacturer. It is marked with "Art-Nr. 162" and a control or item number.



The "Art.Nr.162" decal in front of a bright light. The details shown indicate this decal to be the standard second pattern.

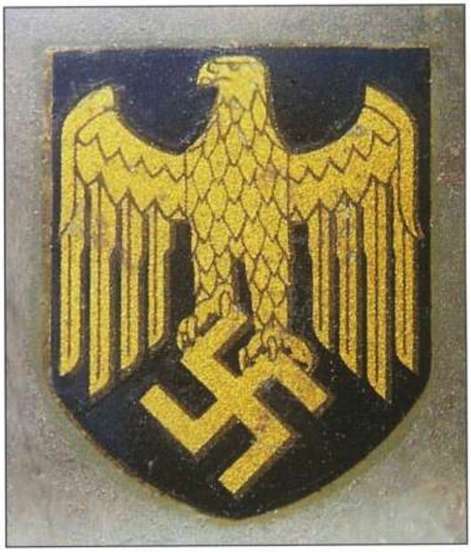
Kriegsmarine decals

Kriegsmarine helmets have always been encountered far more rarely than helmets of other service branches. From the beginning of helmet production, contracts for Army, *Luftwaffe* and SS helmets dwarfed those of the *Kriegsmarine* which could be counted in the tens of thousands rather than the hundreds of thousands.

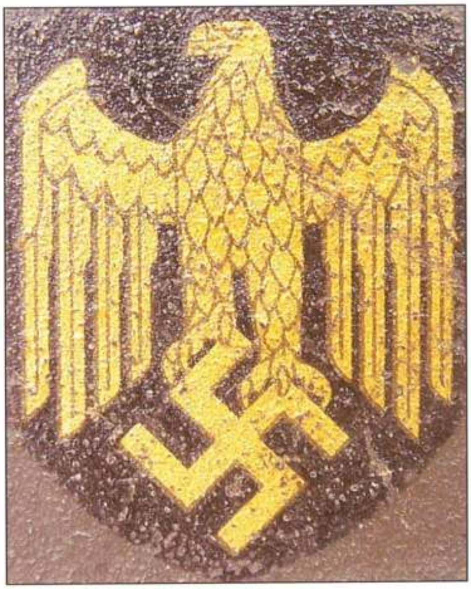
The identification of a true *Kriegsmarine* decal has been the source of much contention within the helmet collecting community. The reason for this has always been the similarity in color tone between a *Kriegsmarine* gold decal and a standard *Heer* decal that has had its coloration altered by the effects of time. Much the same as cellophane tape darkens to a yellow/gold color after time, the background of certain examples of the *Heer* eagle decal have been known to become more yellow/gold in appearance as the years pass. In the case of early decals found on M35 helmets, there is little difficulty in recognizing an actual *Kriegsmarine* decal. The reason for this is the structural design of the decal itself. Unlike *Heer* decals, the early pattern *Kriegsmarine* decal was constructed of two distinct layers, somewhat as if the gold eagle was separately applied over a black shield. On true *Kriegsmarine* decals, one can see a line or ridge surrounding the outline of the eagle on the shield. During the war, the construction method of the *Kriegsmarine* decal changed to eliminate this feature. Wartime *Kriegsmarine* decals are of the same construction design as *Heer* decals and the difference between the two becomes less apparent. However, in most wartime produced *Kriegsmarine* decals, there is a difference in the graphic design. The long straight lines of the downward folded wings appear to be thicker making the wing-feathers themselves appear to be thinner.

In the case of *Kriegsmarine* helmets, correlation between shell producer and decal variant is made easier by the fact that a relatively small number were produced and these appear to be the products of large contracts given at certain times to specific manufacturers (i.e. the vast majority of pre-1940 produced Navy helmets bear the ET maker stamp; SE is the predominantly observed maker of helmets produced in 1940. Post-1940 KM helmets are usually seen manufactured by EF. Of course, as with other branches of service, this applies only to factory finished helmets. Reissued helmets naturally will display decal types irrespective of shell maker).

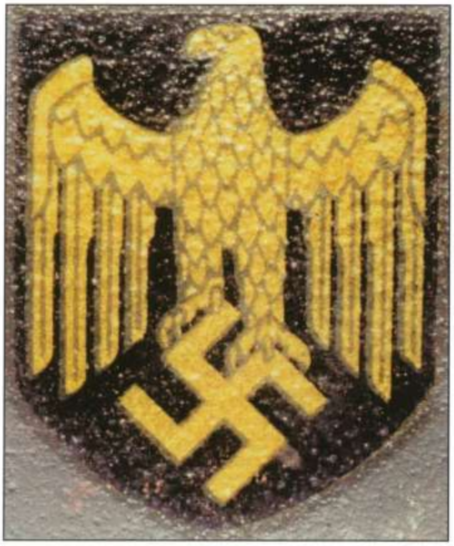
The apparent lack of surviving unused *Kriegsmarine* specimens precludes any observations regarding lacquer based versus water based examples.



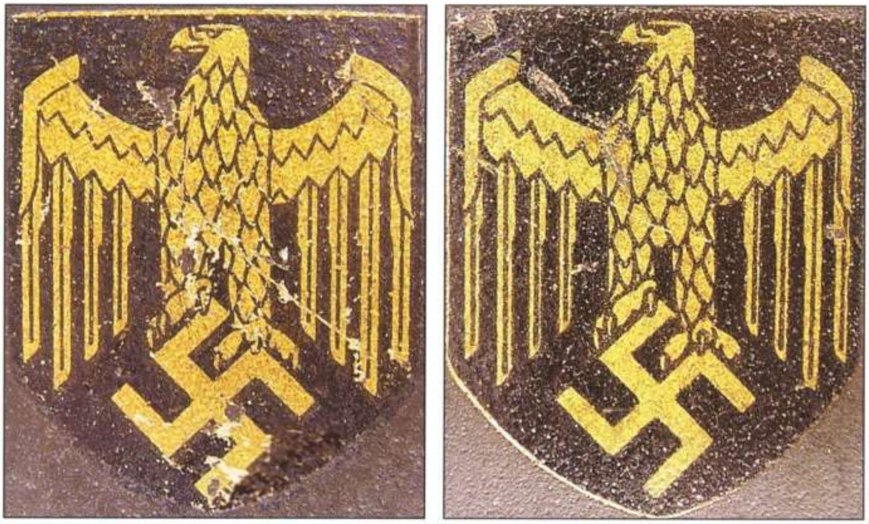
This photo clearly shows the ridge line or "border" line which runs around the details of the gold eagle. This example is found on an ET manufactured M35 *Kriegsmarine* helmet. Most pre-1940 Navy helmets are of ET manufacture.



This "bordered" ET style *Kriegsmarine* eagle has been applied over M40 spec paint. The evidence of the ridge line is less pronounced due to the textured paint underneath. The decal is found on an SE M35 which was assembled in 1940. As described earlier, there are a significant number of surviving M40 spec *Kriegsmarine* helmets which are either late produced SE M35s (lot numbers 4600-4900) or early SE M40s. Very few are seen by other manufacturers. This suggests a major naval contract was awarded to this particular factory in early 1940.



This KM decal appears on a 1940 dated Quist M40. Note the pronounced detail lines which are grey colored. The details of the decal resemble the "ET pattern" eagle. (Courtesy Scott Brainerd)



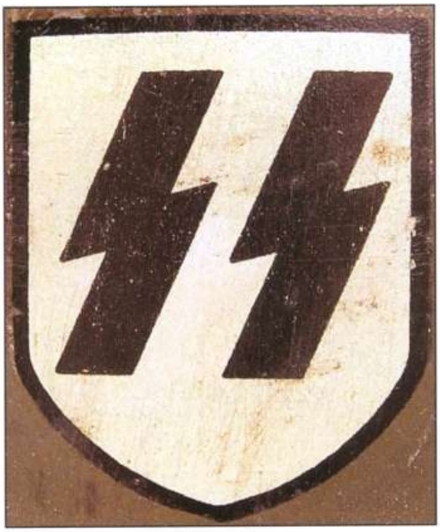
These two examples of wartime *Kriegsmarine* decals show slight variations in design which might be attributable to different printing runs by the same manufacturer. Note the eagle at right has no lower jaw, the downward pointed wings appear to have thinner feathers and there is a slight difference in the appearance of the feet. Both of these insignias display the slight off-set layer effect which is commonly found with this decal type. Both of these decals are on EF produced helmets. As with the case cited above of a single manufacturer receiving a major naval contract in early 1940, it appears that a second major contract was later awarded to the EF factory as the majority of 1941-42 assembled KM helmets (both M40 and M42 models) are found to be EF products. Both the above style decals as well as the ET "bordered" style are found on wartime EF helmets.

SS Decals

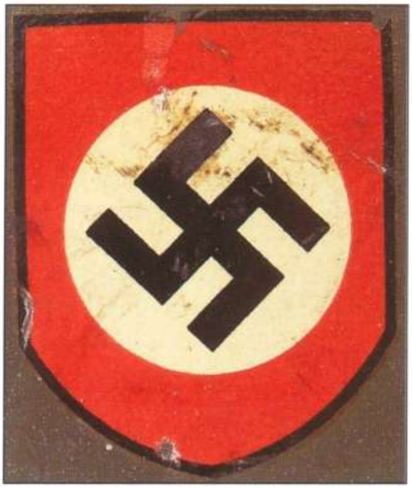
It is apparent that most of the helmet manufacturers contracted for specifically patterned decals and of course, as mentioned above, the Pocher decal existed as a mainstay in after-market decal application. As in the case with *Heer* helmets, the Eisenhutten and Quist factories appear to have had the most consistent decal suppliers. The Quist firm in particular produced helmets which, with very few exceptions, are found with the decal particular to that maker. Not unexpectedly, original Q-pattern SS decals are found only on Q-manufactured helmets. The ET factory appeared to have short periods of interrupted decal supply as occasionally ET marked helmets are found with factory applied Pocher decals.

Also as with the case of *Heer* helmets, the correlation between helmet producer and SS decal supplier is weaker among NS and SE marked helmets. The EF manufacturer is not known to have possessed its own pattern of decal before 1940. EF manufactured helmets that appear before 1940 will in almost every case use a Pocher decal, although by the end of decal application in 1943, the EF pattern decal became continually more prevalent on EF produced helmets and as with the case of Quist-pattern SS decals, the EF decal is found exclusively on EF marked helmets.

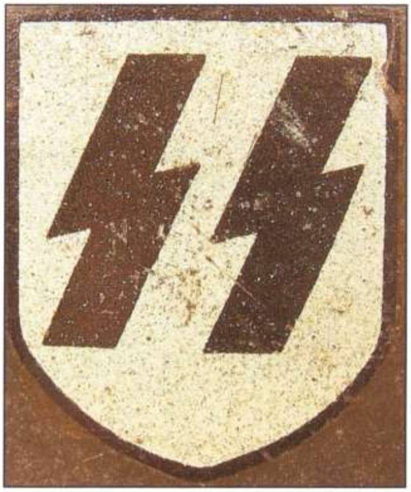
Unused specimens of SS decals are exceeding rare. The only variant which can be confirmed as a water transfer is the C.A. Pocher type.



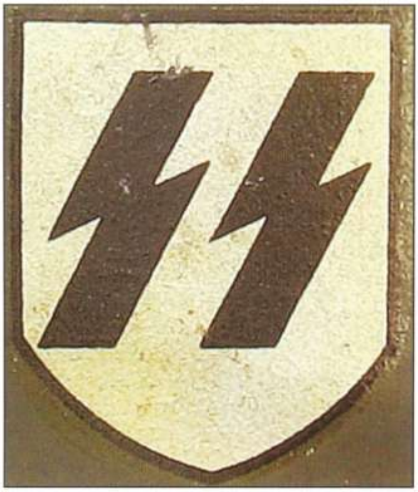
This is a thick bordered pre-1940 ET factory applied runic shield.



The ET Party shield found on M35 helmets.

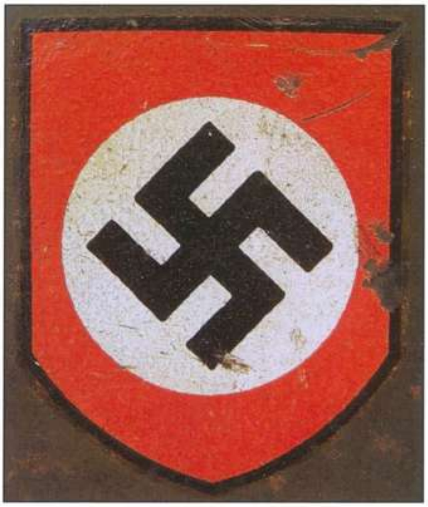


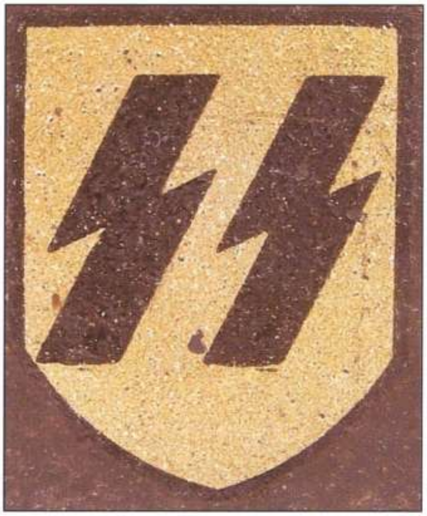
An example of the post-1940 ET runic shield which is applied to an M40 helmet.



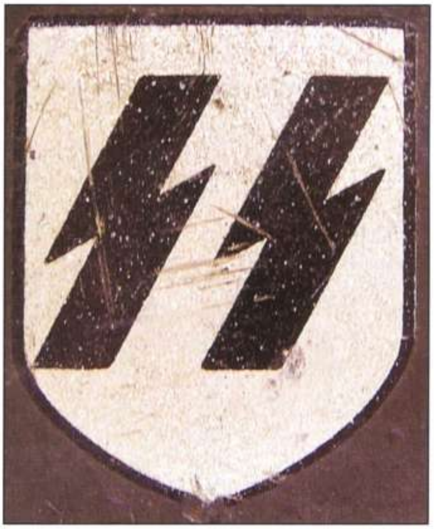
An early (1938) example of the runic decal found exclusively on Quist produced helmets.

The Party shield normally encountered on Quist double decal SS helmets.

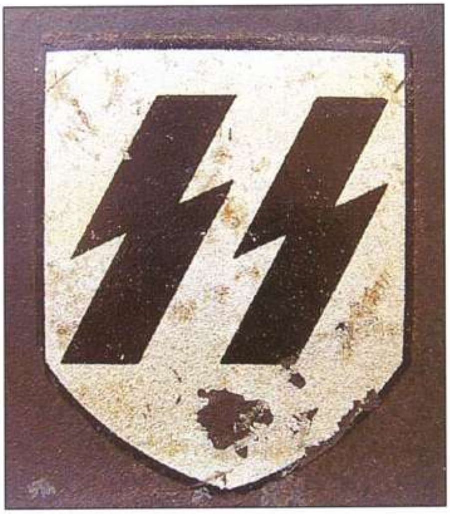




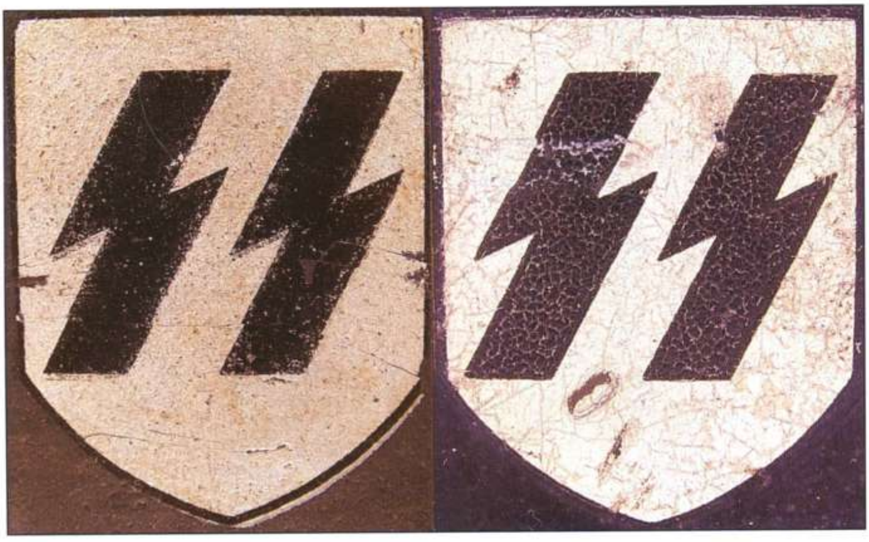
This wartime Quist decal adorns an M40 Q-manufactured helmet. Q runic decals often take on a fairly uniform yellowish patina as shown here.

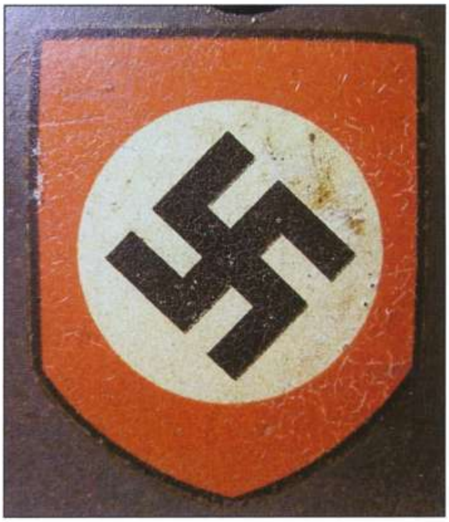


An example of the runic shield adopted by the EF factory sometime after 1940. Until this date, EF helmets are normally found with decals of other manufacturers. One of the characteristics of this decal is the consistency of the background. These are normally much whiter than other types of runic shields. Note also the round shape caused by the curve which occurs beneath the break in the vertical borderlines which form the shield. The position of the lower left corner of the left rune is extremely close to the border line. This feature is the single most noticeable attribute of an EF runic decal. The EF SS insignia is the rarest of the standard wartime decals.



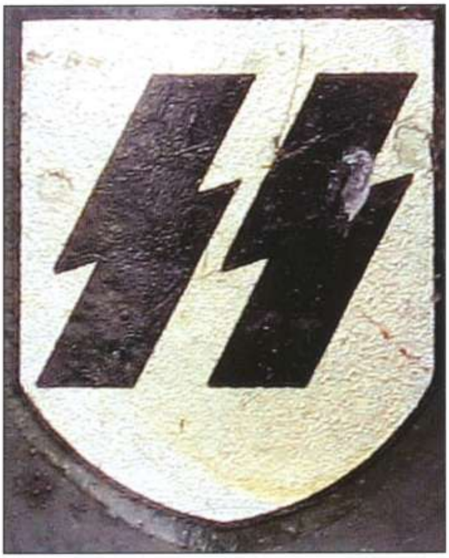
The runic shield printed by the C.A. Pocher firm of Nuremberg. This decal is one of the first to have been applied to helmets of the SS. As early as 1935 this decal was used on private purchase "transitional" style helmets. Later during the mass distribution of M35 helmets, several of the helmet manufacturers were using SS decals which were contracted from other decal makers although Pochers were still used in factory applications when supplies of their own contracted decals were not sufficient. By the war years, the Pocher decal was most usually seen applied on period modified helmets or "reissues." Note the grey hue seen in some of the patina-affected portions of the decal. This is discussed in the next photo caption.



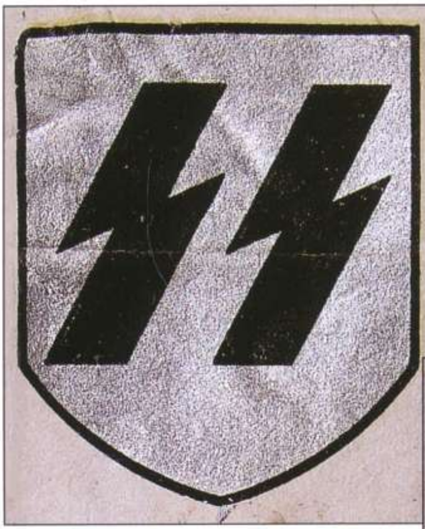


The Party shield manufactured by C.A. Pocher. It is often noted for the orange hue of the red background.

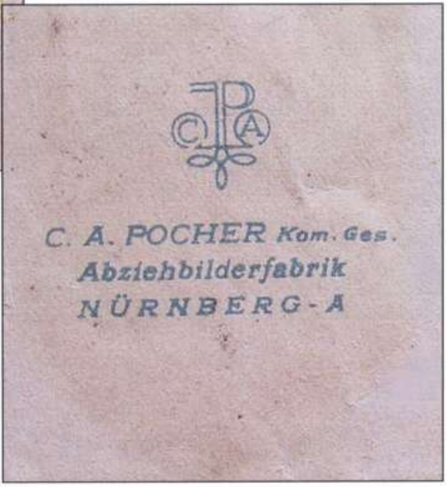
The Pocher runic shield has two distinct characteristics. The background usually appears more silver in color than runic shields of other manufacturers due to the addition of pulverized aluminum particles. This often causes the patina to be composed of brown/grey spots when aluminum oxide forms as part of the natural oxidation process. The second characteristic is the border which is seen around the runes. The decal is composed of two layers; black over silver. Yet the silver colored shield continues for about 1 millimeter beneath the black runes causing a slight ridge to form around the outline of the runes as this is the point at which the two layers are actually stacked. This border is more visible when there is even wear to the decal. The decal on the far left shows wear in such a way as to highlight this characteristic border. The decal appearing at right shows a good amount of crazing in the single layer area of the runes, thus highlighting the non-crazed double layer area of the runes outline.



This is a rarely encountered variant easily recognized by the thicker-than-normal runes. It has been observed as factory applied on early produced (1936-1937) ET manufactured M35s as well as early transitional and civil-weight helmets. (Courtesy K. Hicks)



A rare example of a C.A. Pocher decal in an used form. It is a face-up water-slide transfer. (Courtesy S. Kamasada)



The reverse side of the backing card of an unused Pocher runic shield. It is marked with the C.A. Pocher logo and firm name. (Courtesy S. Kamasada)

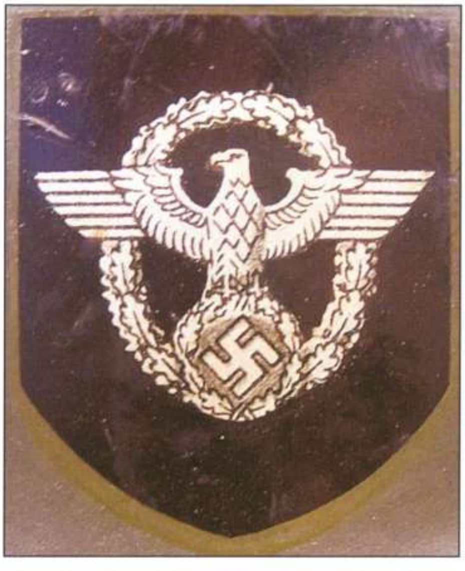
Police Decals

The police decal is unique among the decal types found on combat-weight helmets in that it is a style of decal that is also found on a large number of non-combatant, civil or "light-weight" helmets. Variation is seen in examples found on both combat and non-combat helmets.

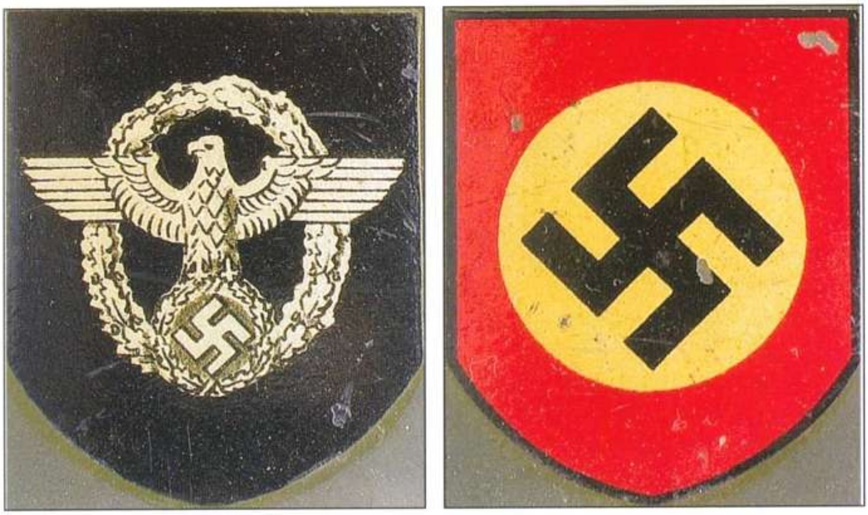
The main subdivision of police helmet decal variants is found with the border that was added to the police shield around 1940. Generally speaking, the un-bordered decal is found on Model 35 helmets while the bordered decal is found on later models. Variations to this rule are found on all models. The SE factory was the originator of the bordered decal and SE M35 helmets that have been assembled during the 1940 change in specifications can be found with both bordered decals and non-bordered types. In certain cases with other manufacturers, Model 40 and even Model 42 helmets are found with the early un-bordered type.

There is strong evidence of correlation between shell manufacture and decal type, particularly on M35 police models.

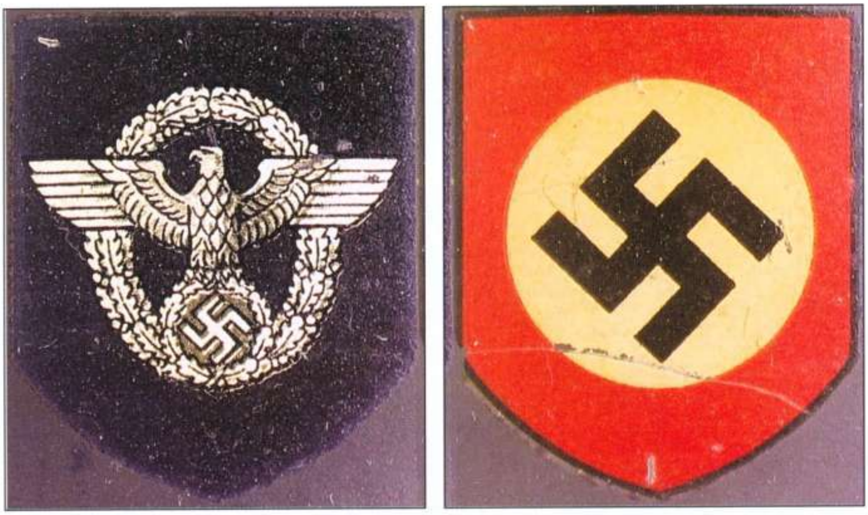
Unused police decals are normally water transfer types and are found to be factory specific variants. There are few non-factory-specific or reissue examples existing in unused form.



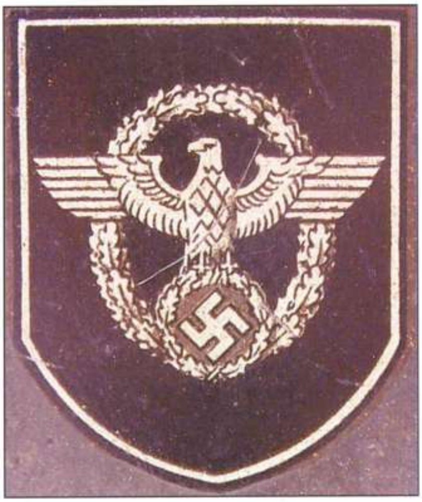
An early unbordered police decal found on a 1937 dated M35 helmet manufactured by the Eisenhutten factory (ET). It is most noticeable by the straight angles of the wing tips and the design of the eagle's face.



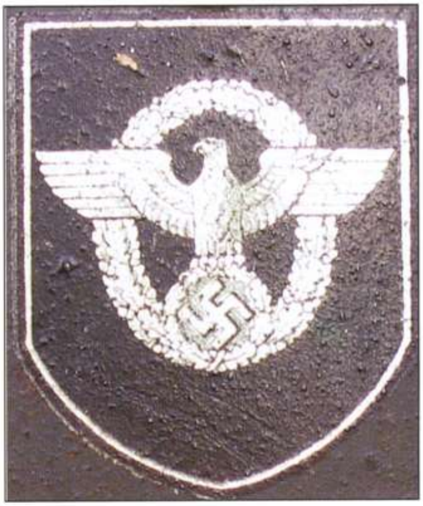
A police decal and corresponding Party shield found on a 1936 dated Quist M35. Note the more rounded appearance of the wing tips when viewed in comparison with the previous "ET style" police decal. (Courtesy Mario Ramaioli)

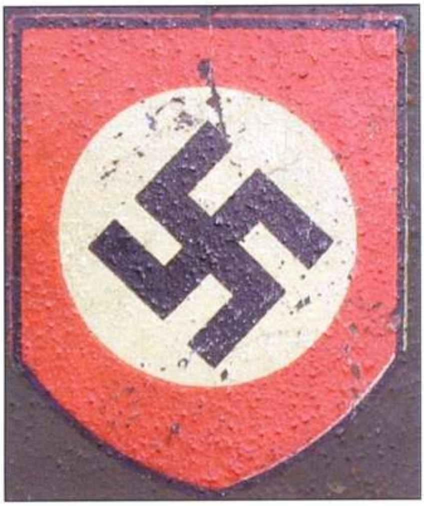


The NS pattern police eagle and Party shield on a 1938 dated example. (Courtesy Mario Ramaioli)

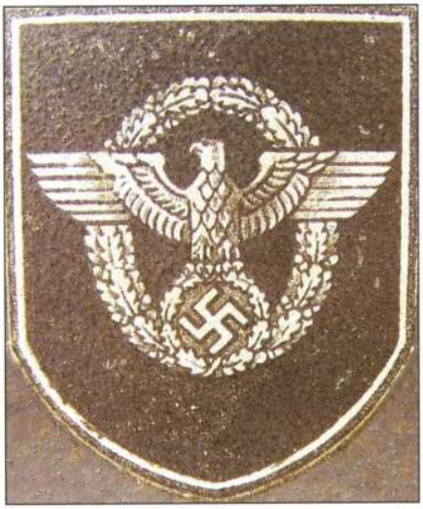


A police decal factory-applied on an M40 helmet of SE manufacture.

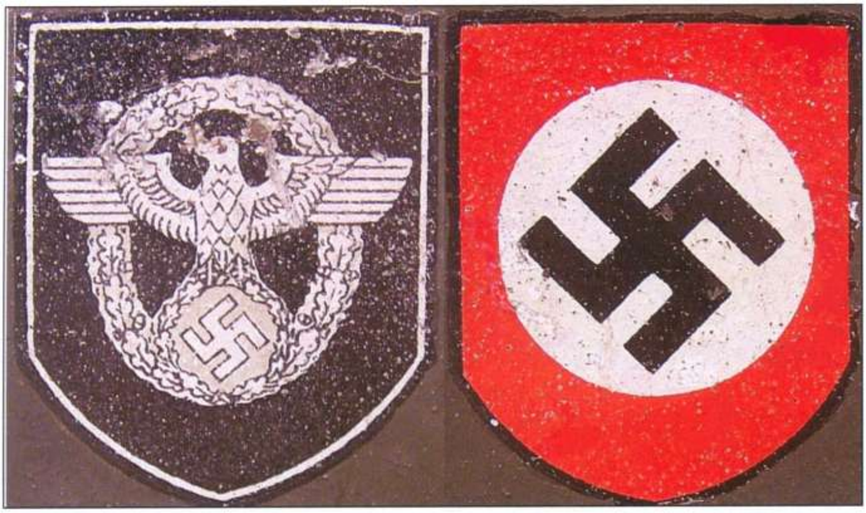




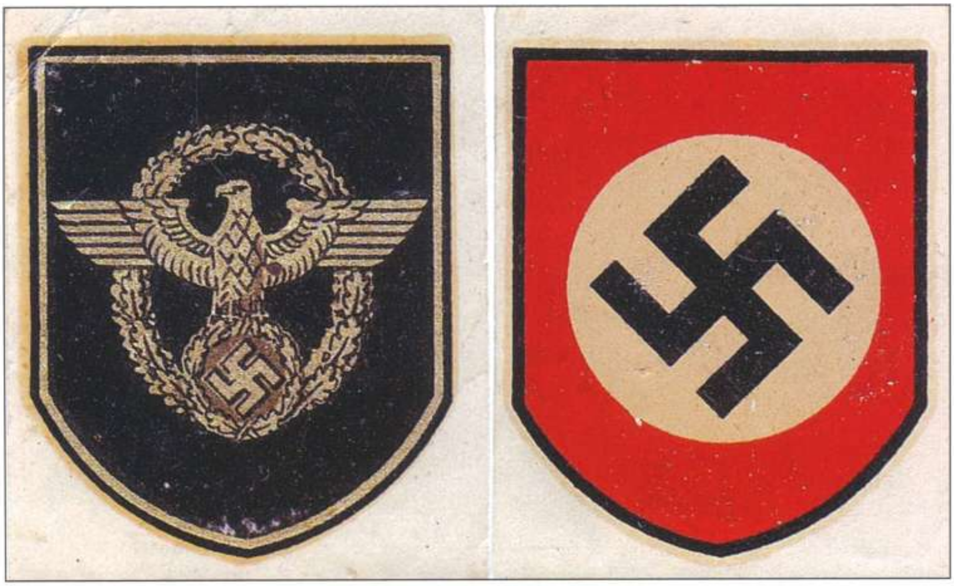
This police decal and Party shield are found on a Model 42 helmet marked Hkp. (Courtesy Mario Ramaioli)



This decal is on the right side of a late war Q M40.



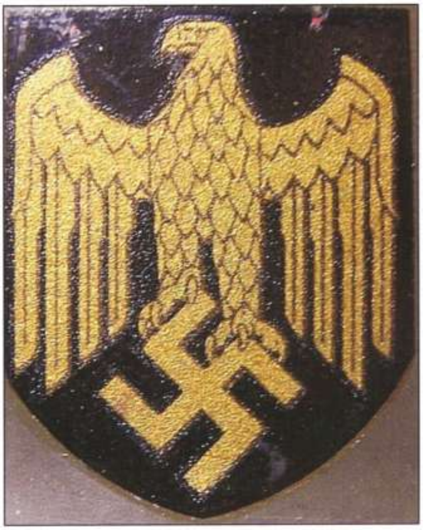
The lack of detail and shadowing on the police decal (at left) marks it as a late war produced item. There is no background around the swastika within the circular wreath. It is most often seen on EF-produced M42 police helmets. The Party shield at right is also an EF variant.



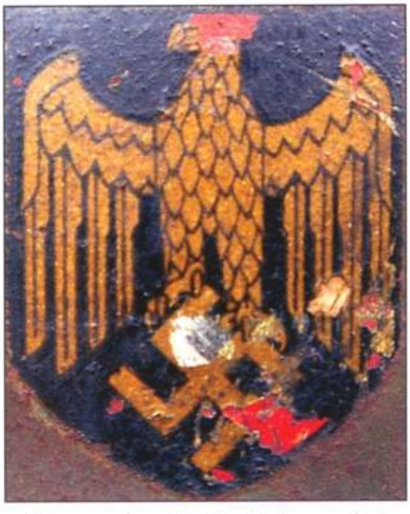
These decals are water transfer types that have not been applied. The manufacture is unknown but the graphic details are identical to those found on ET produced helmets. They are each marked on the back with four digit numbers.

Decal Overlays:

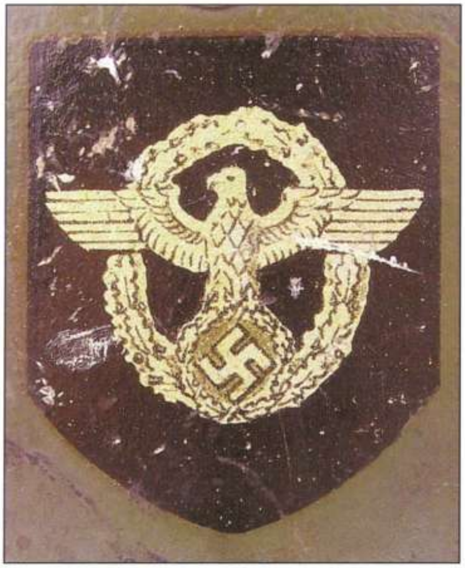
Occasionally helmets are found that have different branch of service decals applied directly over another. In some cases it is evident that the underlying decal was the original factory applied insignia but after seeing service, the helmet was modified at either a facility or in the field for reissue to another branch of service. On other occasions, factory applied decals are found that cover insignias previously factory applied. The reason for this is unknown. It may represent a diversion of a certain number of prepared helmets to fill a higher priority order from another branch.

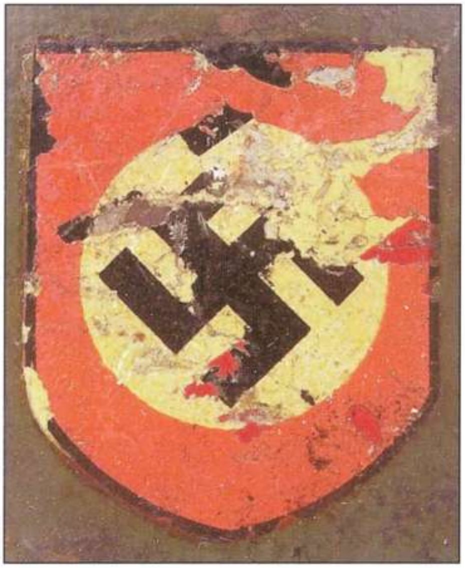


This *Kriegsmarine* decal has been factory applied over the top of a previously applied Party shield. The red color of the Party shield shows through two small spots of damage near the top of the *Kriegsmarine* decal. Since the Party shield had been applied to the wearers right-hand side, it would appear that the helmet was originally intended to be supplied to the SS.



Another example of a *Kriegsmarine* decal which was factory applied over a previous decal. This example shows much more clearly the red/black/white colors of the underlying Party shield. (Courtesy Benoit Senne)





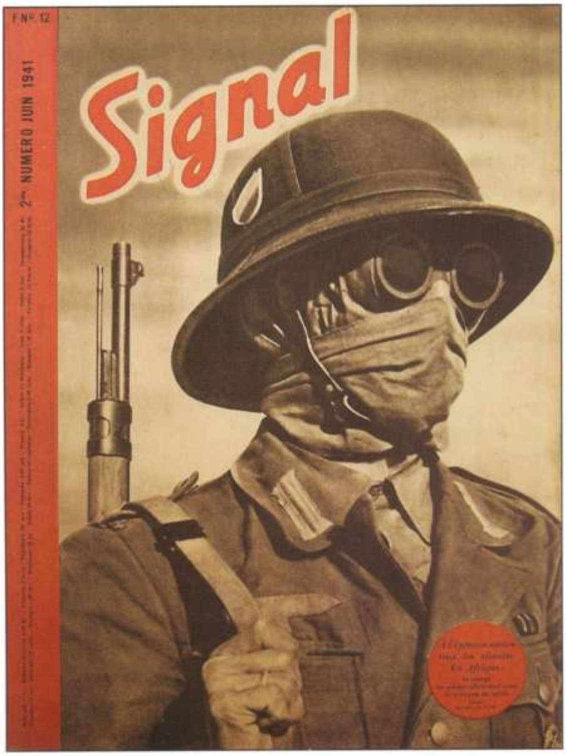
The above decals appear on the sides of an ET M35 *Heer* helmet which was re-decaled as a police helmet. The black/white/red national color shield is clearly seen under the Party shield. Some detail lines of a *Heer* eagle appear in very small spots of damage to the police decal. As this police eagle is commonly seen on ET factory decorated helmets, it is therefore probable that this reassignment of the branch of service insignia was done at the factory before the helmet was delivered.

Chapter
IX
Tropical Pith Helmets

During the summer of 1940, Italian dictator Mussolini began his latest adventure in North Africa and the Mediterranean pursuing his dream of a new Roman empire. Fascist Italian forces soon clashed with the British Army and an entirely new theater of war was opened. As Italy's ally, Hitler was quick to realize that it was only a matter of time before there would be a need for German intervention. By the end of the year, there were already German advisors and observers in Africa, and in Berlin plans were on the table for the assembly of a force specially equipped to carry on military operations in the hot and arid climate. A complete array of lightweight uniforms had been designed, including the Third Reich's version of the traditional sun helmet which had long been used by Europeans when they found themselves in countries of extremely warm climate.

Although it has heretofore been the purpose of this text to study only steel combat helmets of Nazi Germany, this chapter detailing non-steel headgear is included due to the interest in the particular subject and the association of the pith helmet to the overall subject of combat headgear worn by Germany's forces in active theaters of war.

Designated the M1940 *Tropenhelm*, tropical helmet or "pith helmet," the word "pith" by definition is a lightweight, cellular, wooden substance found in several varieties of plants and trees commonly referred to as cork. The first German pith helmets were comprised of a multi-layered 10mm thick pressed cork body which was covered with green or tan lightweight canvas. (There are rarely encountered examples of helmets which have pressed straw or wicker matting as the structural material of the body.) The dome of the helmet was covered by six panels of cloth sewn together and attached to the covering of the front and rear visors. A cloth band of material ran around the base of the dome covering the sewn junc-



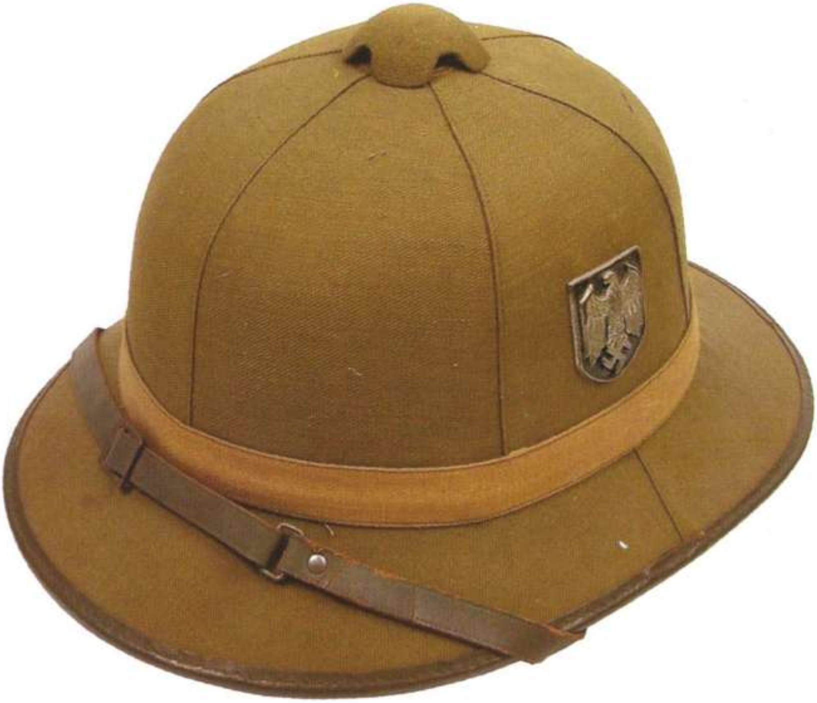
The June 1941 issue of the German propaganda magazine *"Signal"* features on the cover a photo of a German soldier in Africa. He wears a canvas covered pith helmet with goggles and kerchief to protect himself from the fierce elements.

tion. A leather sweat-band was attached inside connecting at six points via thin metal strips secured by pins. The helmet was finished with a thin narrow chinstrap and peripheral trim of matching colored leather (green for Army forces and tan or brown for troops of the *Luftwaffe* or *Kriegsmarine*).

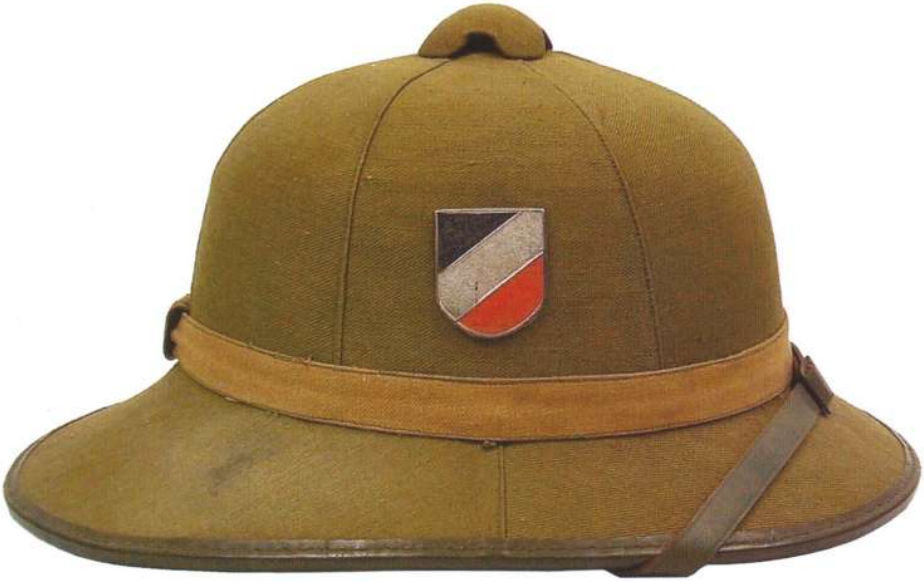
The canvas/cork M40 *Tropenhelm* was produced by a wide variety of manufacturers, among them the prestigious hat makers Clemens Wagner of Braunschweig and Robert Lubstein of Berlin. There are also many examples found which are of non-German manufacture but obviously made for *Wehrmacht* contracts. A pressed felt version (often referred to as the "second pattern") was produced in large numbers by the maker JHS and original examples are seen which are dated as early as 1941. Yet there is very little photographic evidence which shows the felt model in use in North Africa although it is seen used in Crete and other tropical regions.

The pith helmet was issued to officers and enlisted men of all ranks. It was mostly worn in non-front-line areas when the steel helmet would not be used and was generally replaced by front-line personnel in favor of the visored field cap.

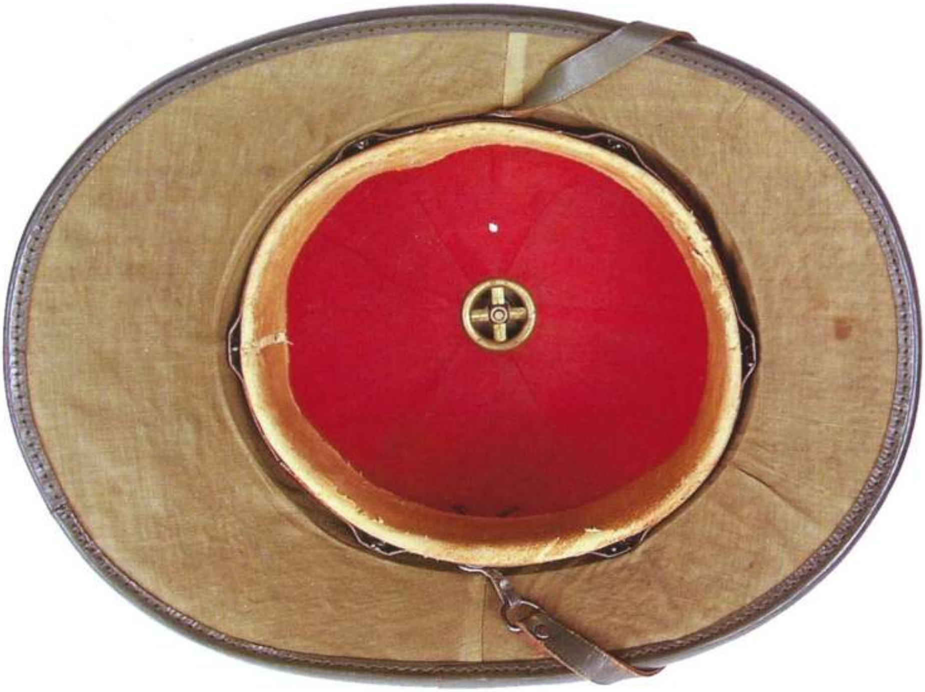
The *Heer* Issue Pith Helmet



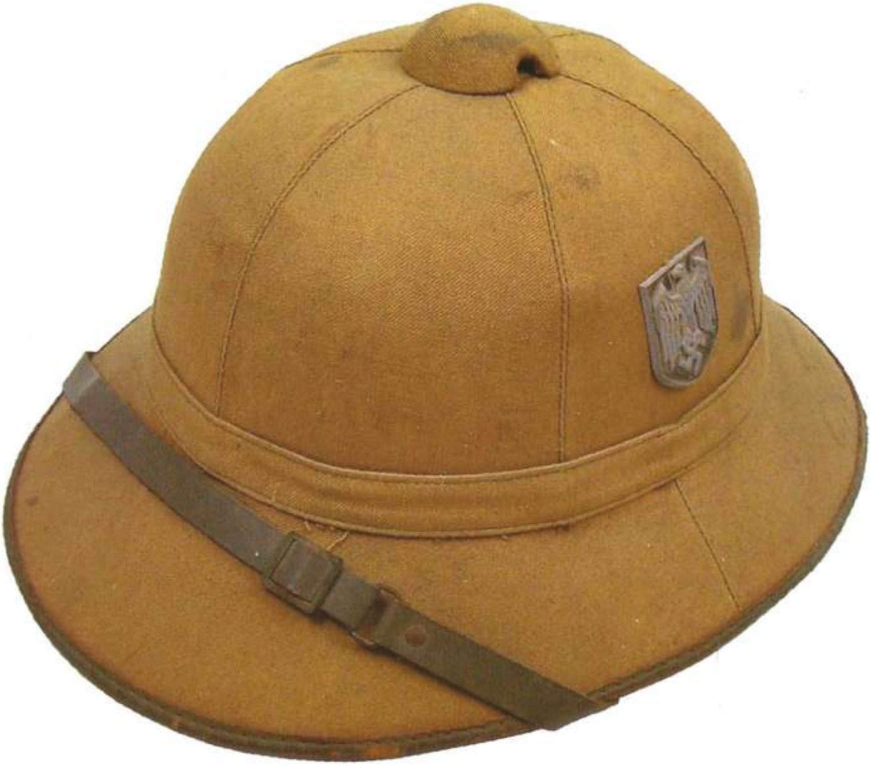
The Model 1940 green canvas covered pith helmet. This photo shows the construction of the dome cover being comprised of six sewn panels topped with a vent-knob. The basic style of this helmet resembles earlier types of head-gear devised by Europeans when visits to warm climates became commonplace.



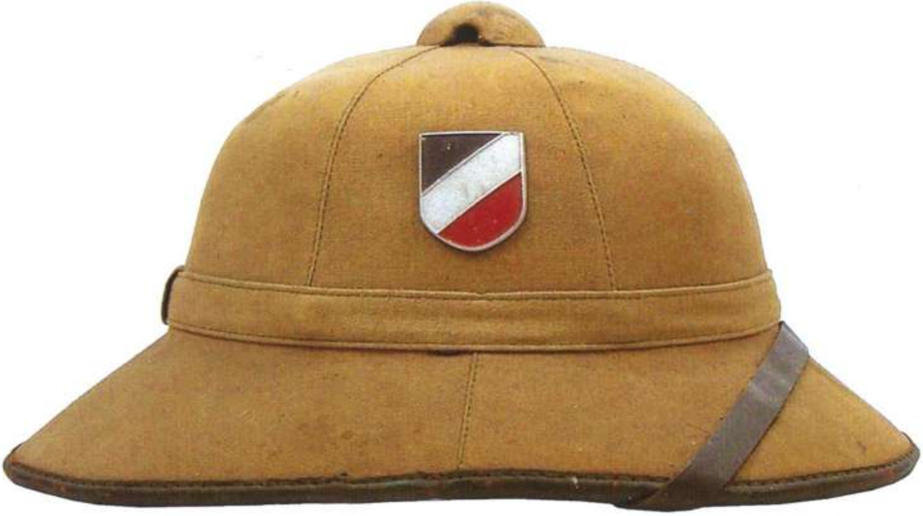
The elongated rear visor was intended to keep the sun from the nape of neck.



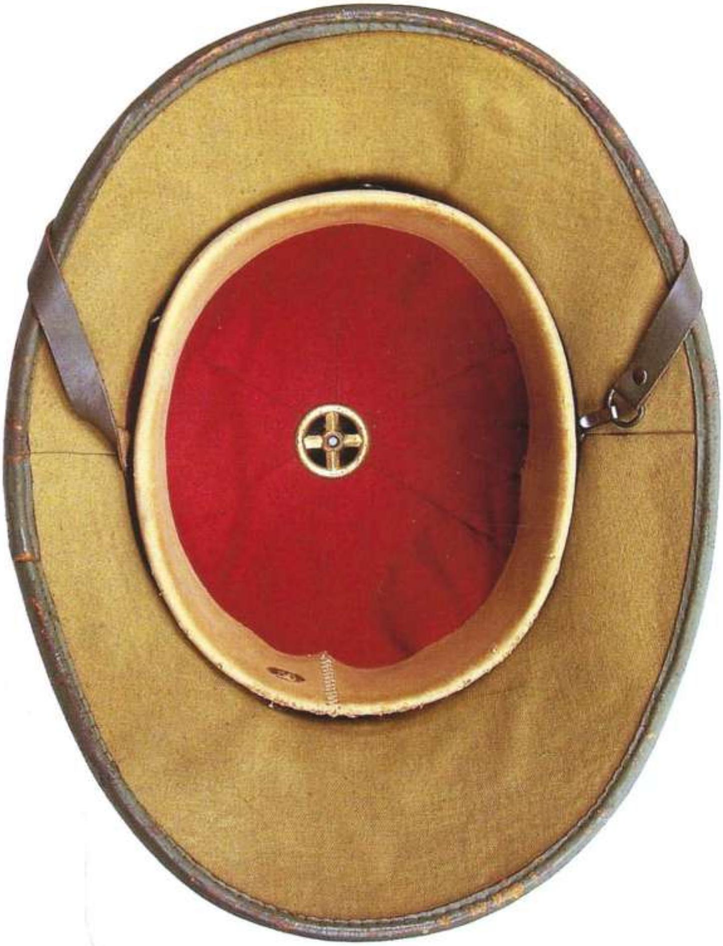
This interior view shows the six connection points which held the sweatband to the inside of the helmet.



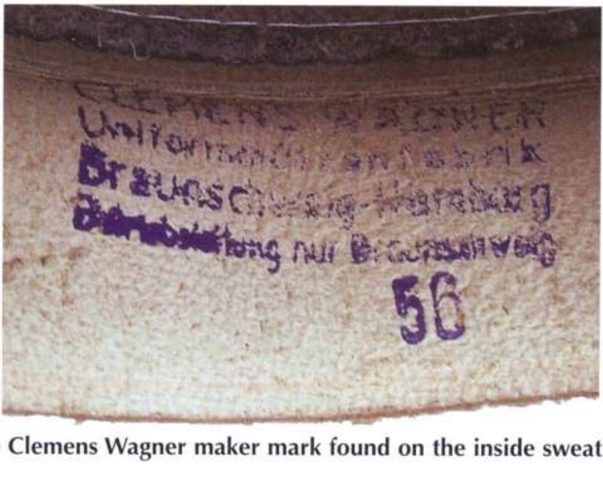
Pith helmets are more commonly encountered with a tan canvas color rather than green. The reason for two separate colors being used is unclear. Existing examples of both are found dated from 1940 to 1943 so it is apparent they were issued in conjunction with one another. This specimen is a 1942 dated product of the hat maker Clemens Wagner.



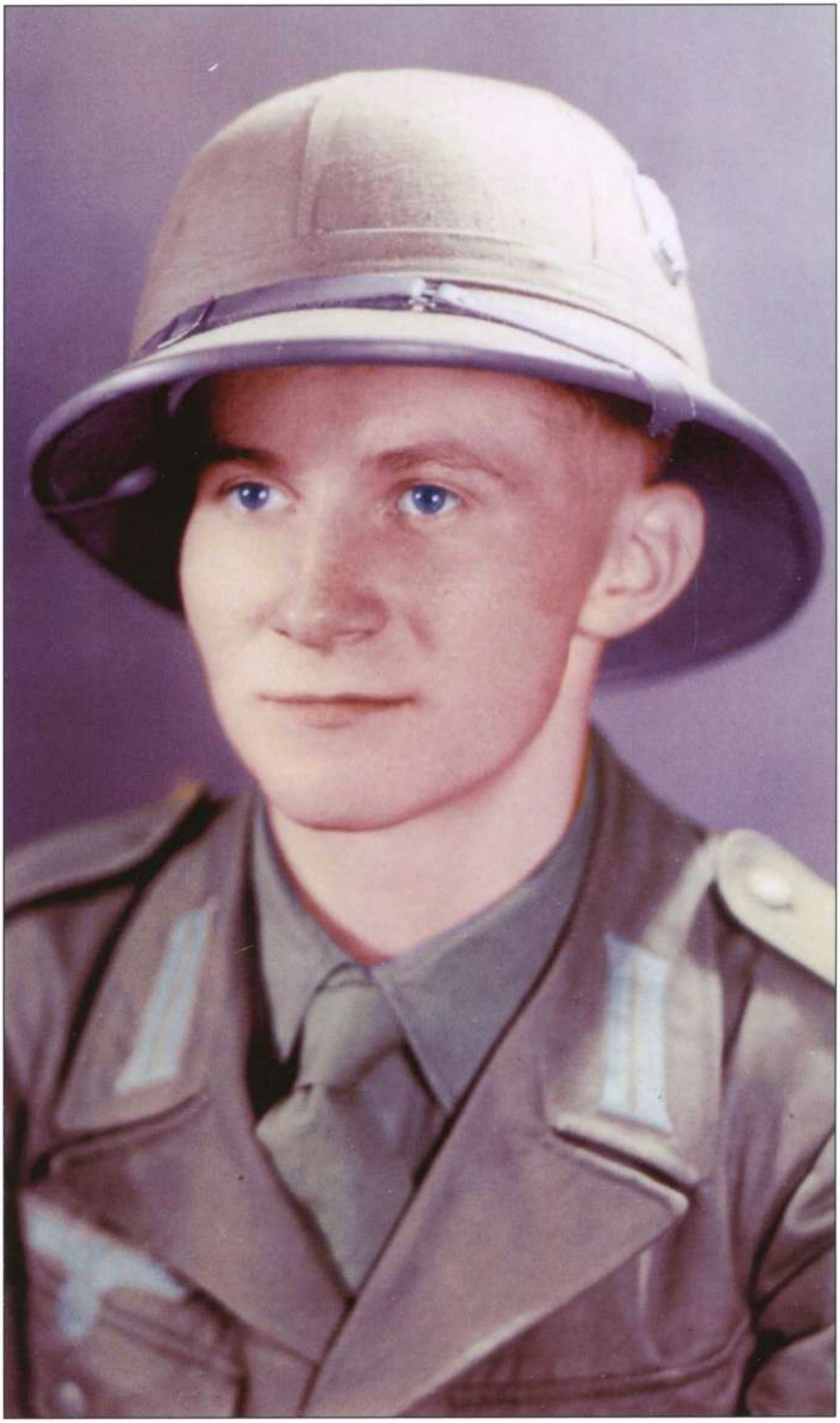
This side profile shows the "crescent" shape of the body and visors which is characteristic of Clemens Wagner produced pith helmets.



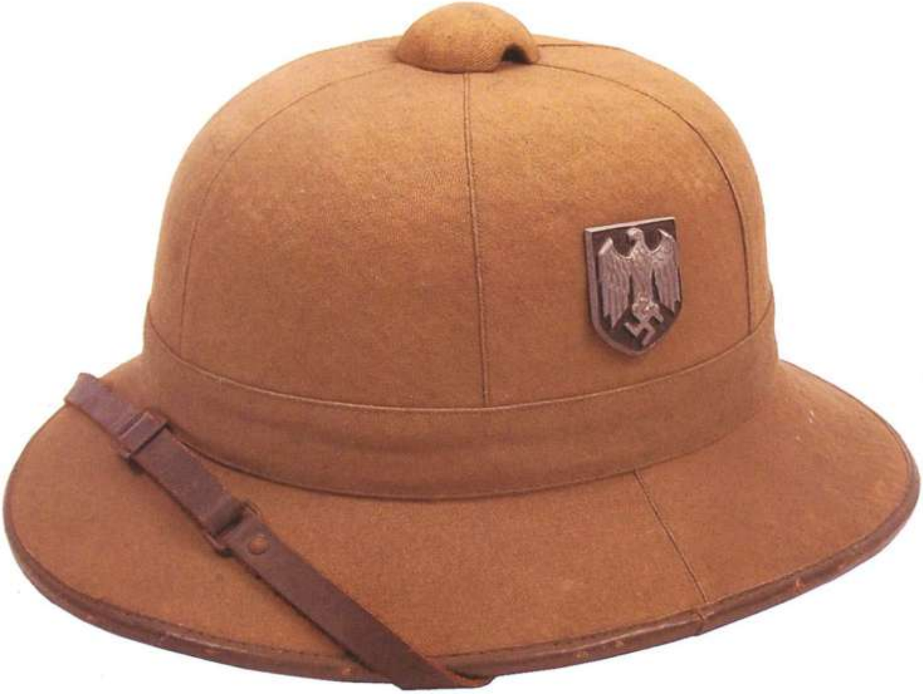
The inside dome of the M1940 pith helmet was covered in red cloth. In theory at least, this was intended to give added insulative quality. Most German tropical headgear was lined with red cloth.



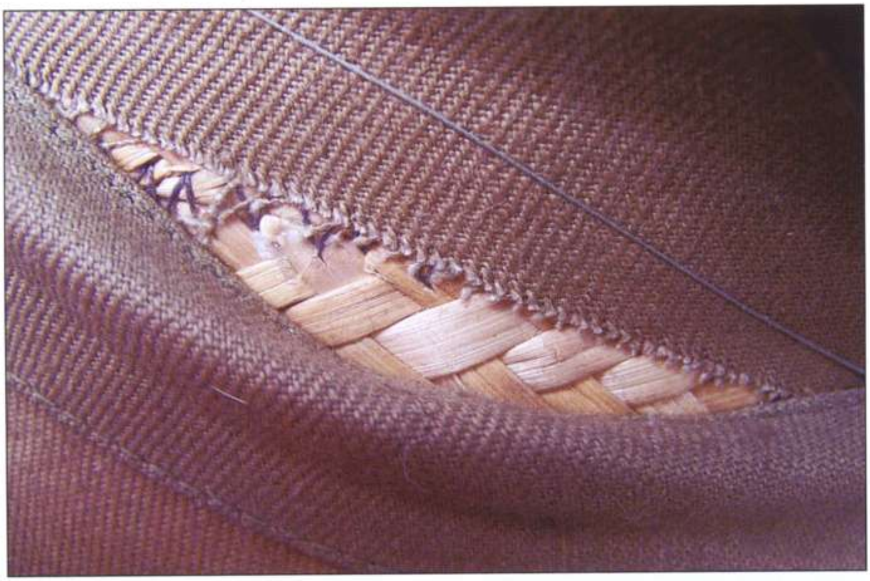
The Clemens Wagner maker mark found on the inside sweatband.



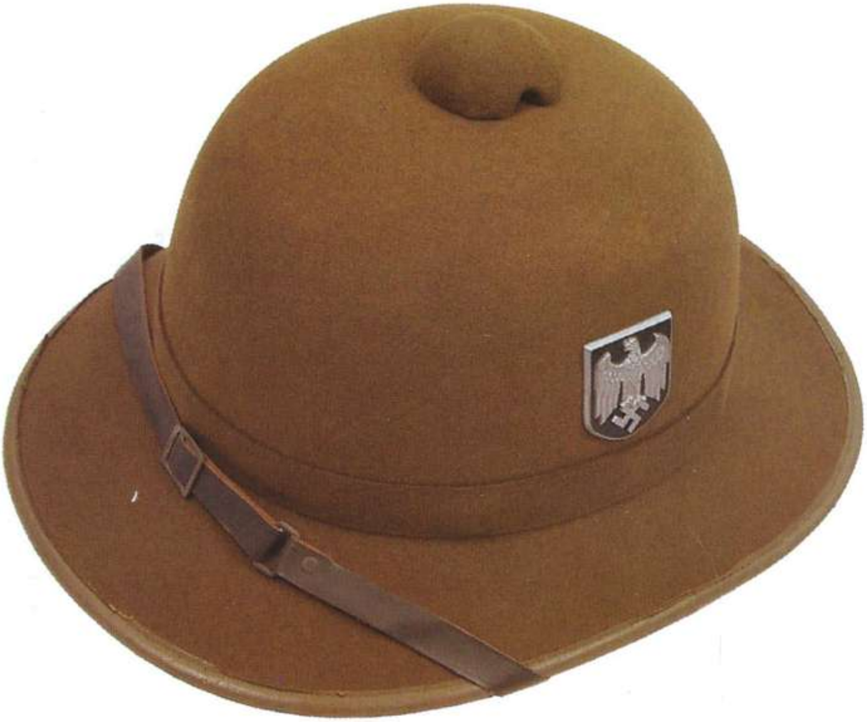
This period portrait photo shows a young soldier in tropical dress uniform and a tan canvas *Heer* pith helmet.



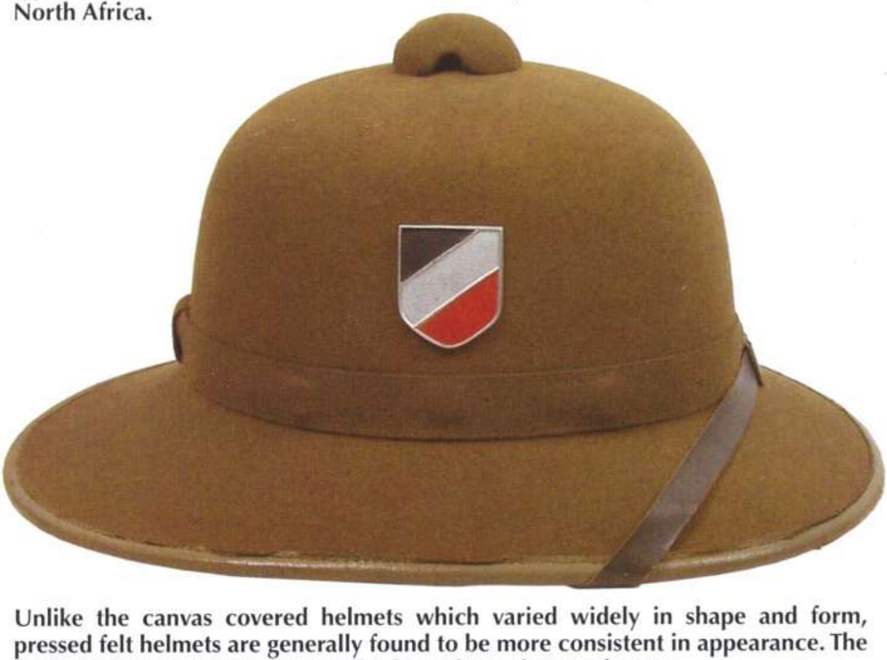
This 1941 dated example differs from most pith helmets in that the body is composed of wicker rather than cork. The woven pattern is just barely visible through the tan canvas.



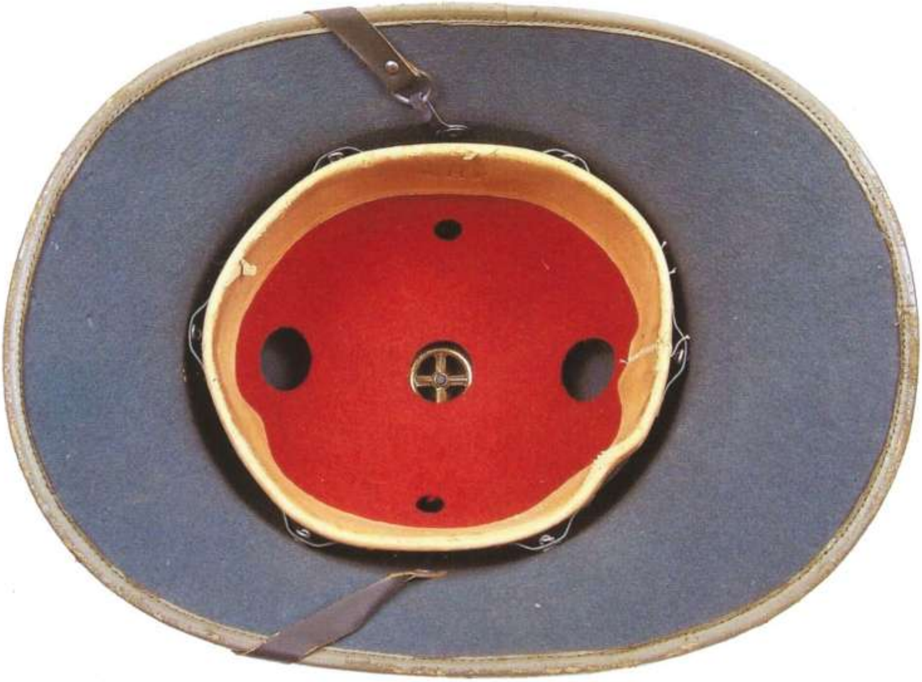
The area beneath the outer cloth band reveals the woven pattern of the wicker body.



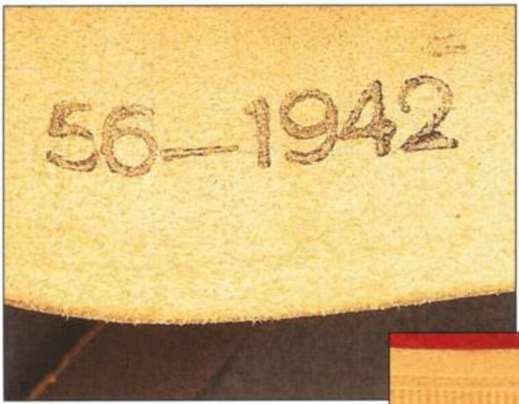
The so-called "second pattern" pith helmet. The crown and visors are of single piece construction made from two layers of wool felt. Although produced in conjunction with the canvas covered cork model, there is very little evidence that this type of helmet was issued for use in Germany's main tropical theater of war; North Africa.



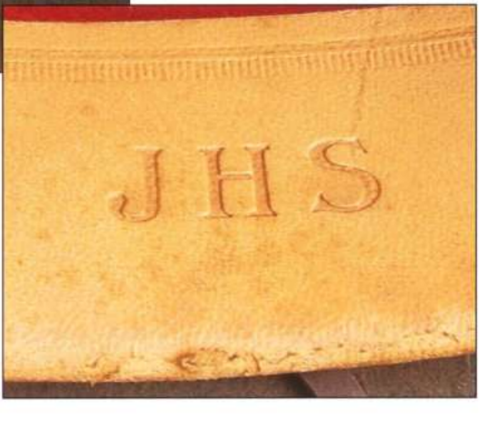
Unlike the canvas covered helmets which varied widely in shape and form, pressed felt helmets are generally found to be more consistent in appearance. The vast majority of surviving examples bear the maker mark JHS.



This interior view of the pressed felt pith helmet shows the red lining to be a separate piece of felt forming a bowl within the crown. The six-point connection system remains the same as found with the canvas models.



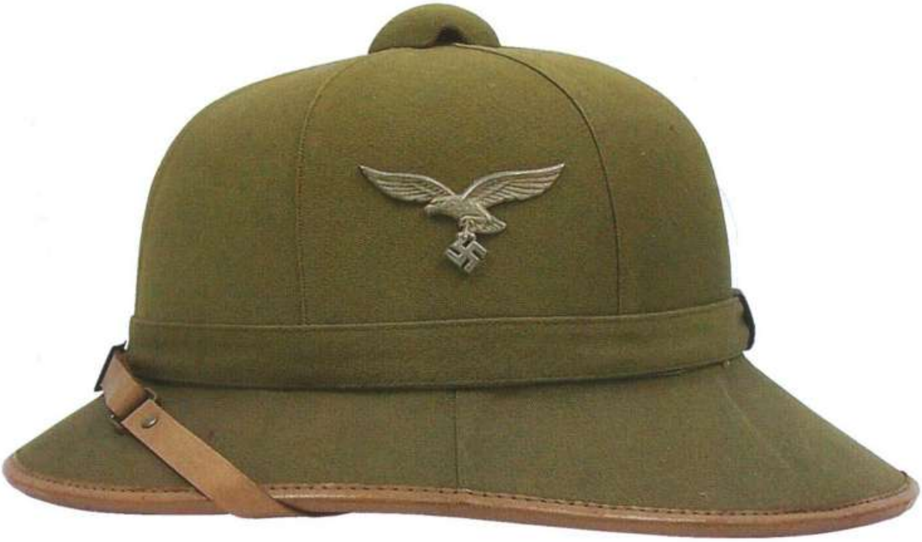
The vast majority of felt pith helmets bear a 1942 manufacture date indicating the probability that the main contract for their production took place in that year.



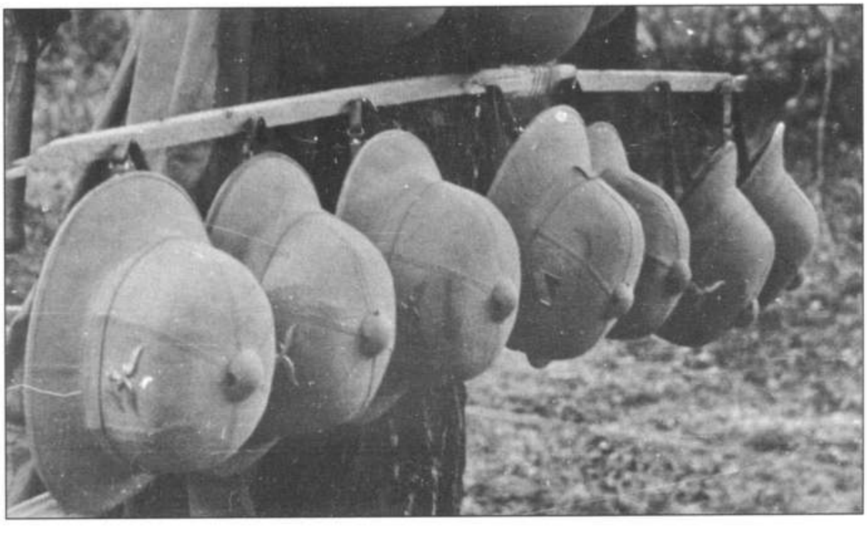
The JHS maker mark found stamped into the sweatband.

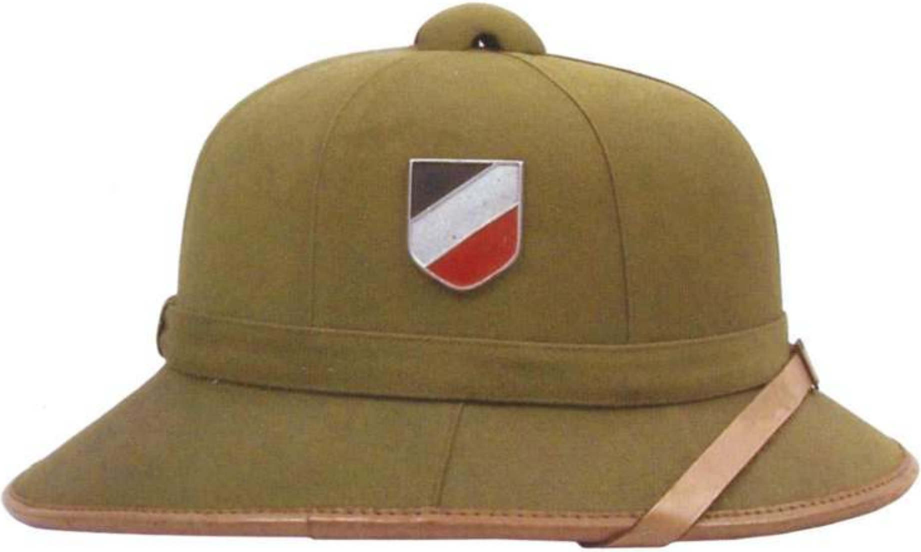
The *Luftwaffe* Issue Pith Helmet

Germany's air arm followed the ground units to the Mediterranean theater and made up a significant portion of what would be termed the *Afrikakorps* and later *"Panzer Armee Afrika."* From the beginning of employment in tropical regions *Luftwaffe* air crews, Flak troops and support units were likewise equipped with their version of the M1940 pith helmet.

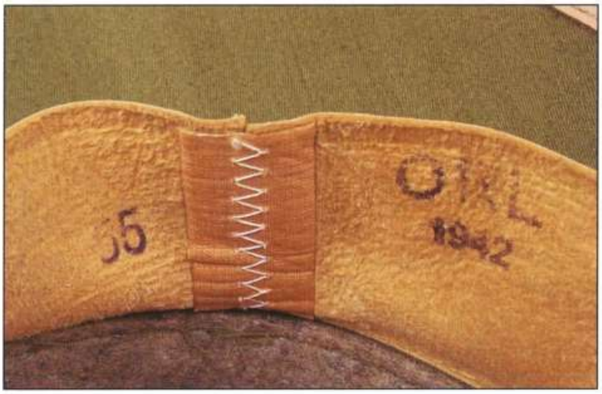


This is the *Luftwaffe* issue version of the M1940 *Tropenhelm.* The eagle insignia differs from that on *Luftwaffe* "soft" headgear in that the eagle is seen facing to its right, the same as the decal insignia found on *Luftwaffe* steel helmets.

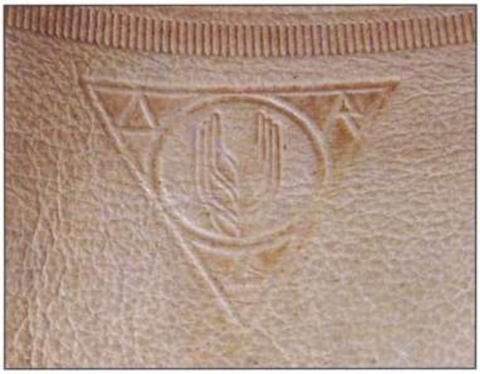




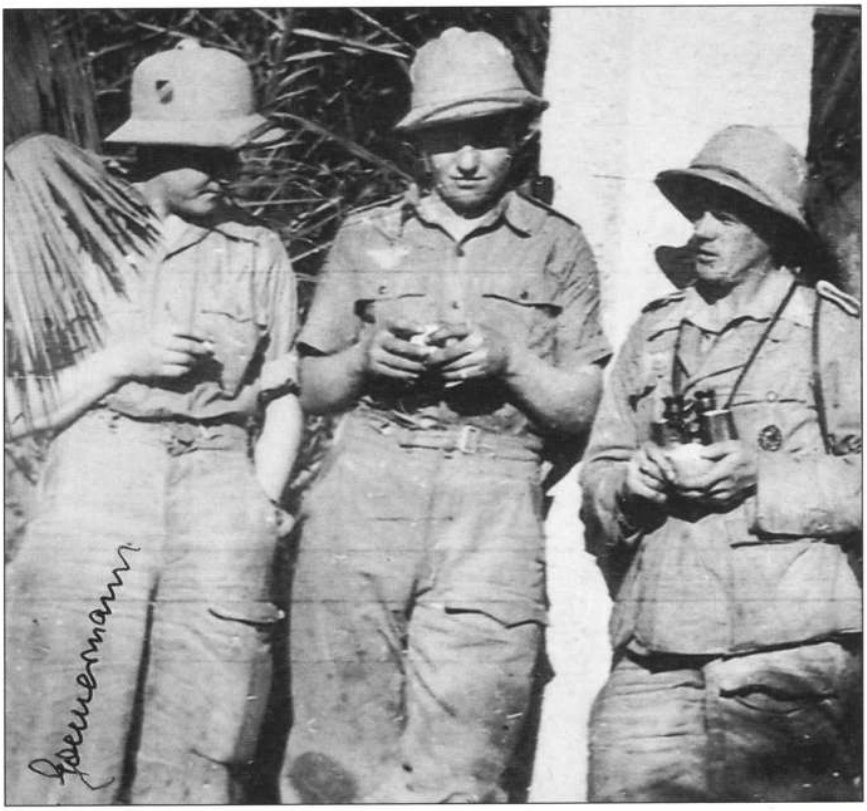
The right side of the *Luftwaffe* pith helmet shows the same national color shield as found on *Heer* pith helmets. Note however that the leather trim and chinstrap are brown instead of the green found on *Heer* helmets.



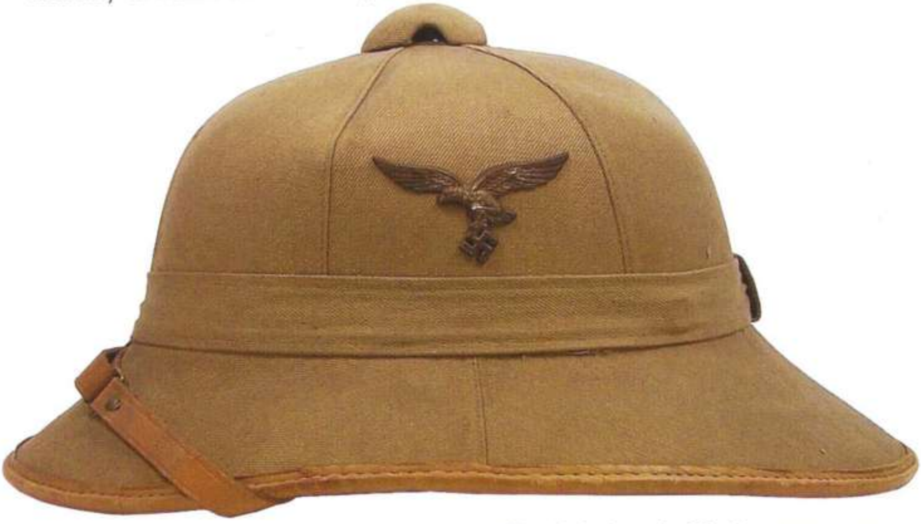
The inside sweatband of this green canvas *Luftwaffe* pith helmet shows the manufacture marking "ORL"; a commonly found maker mark on both *Heer* and *Luftwaffe* models.



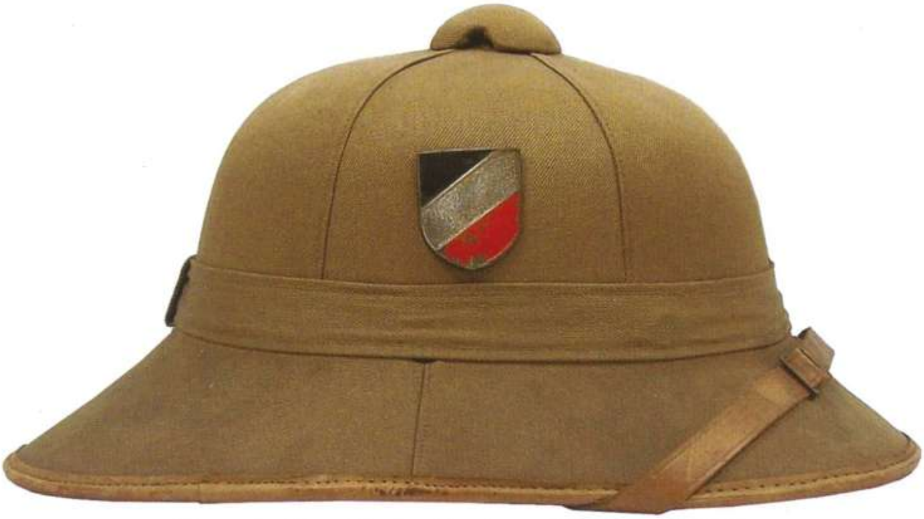
The logo found stamped into the sweatband of all "ORL" produced pith helmets.



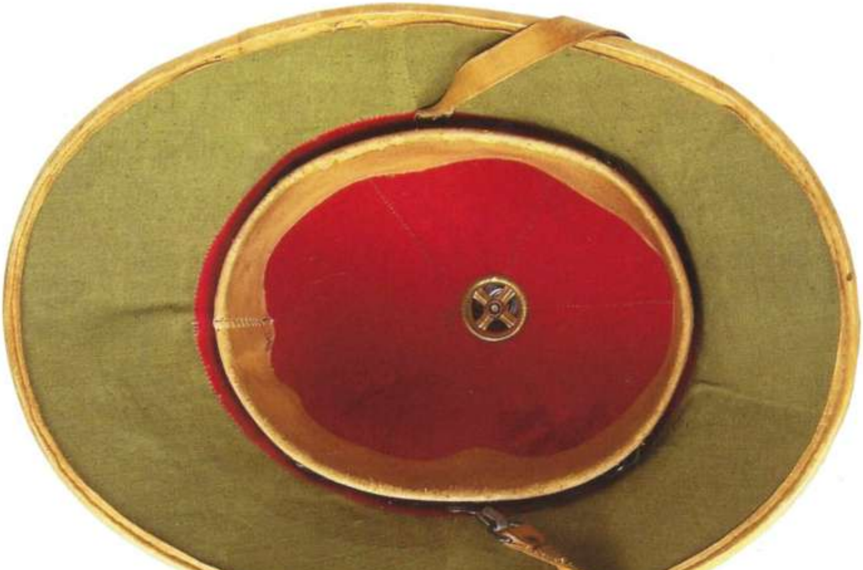
A private snapshot of Heinz Gonnermann (at left) who served with a *Luftwaffe* anti-tank unit in the "Division von Manteufel," part of the 5th Panzer Army of *"Heeresgruppe Afrika."* Photo taken at Mateur, Tunisia, December, 1942. Gonnermann and his comrades wear the *Luftwaffe* tan canvas tropical helmet. (Photo courtesy of Heinz Gonnermann)



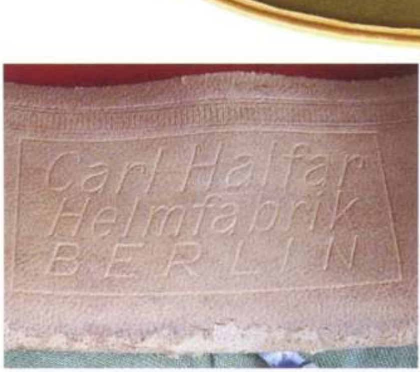
The tan canvas covered version of the *Luftwaffe* pith helmet is; like its *Heer* counterpart, much more prevalent than the green canvas type.



Wearer's right side showing the national color shield.

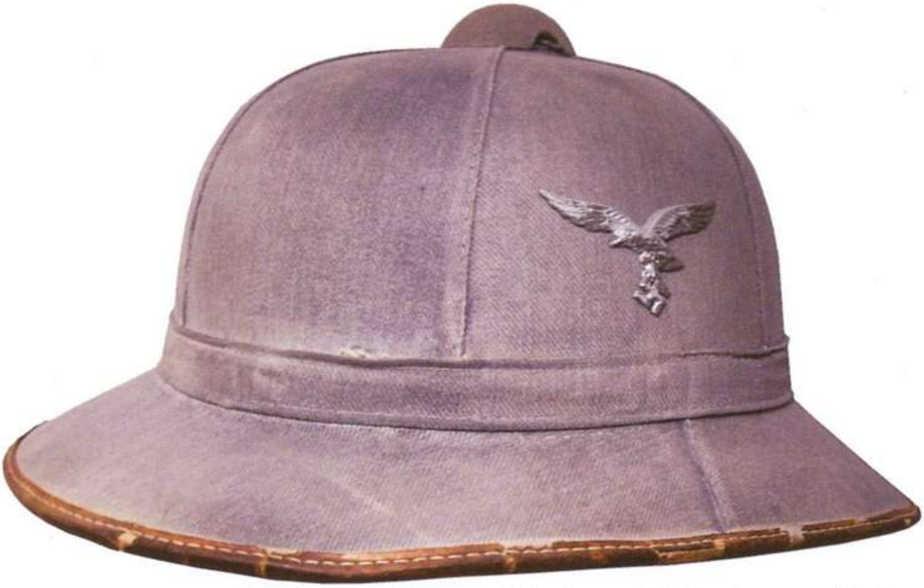


A commonly found feature is mismatched colors of inner canvas covering, here the underside is green in contrast with the tan canvas exterior.



The maker mark of Carl Halfar, Berlin, a prominent supplier of *Luftwaffe* headgear.

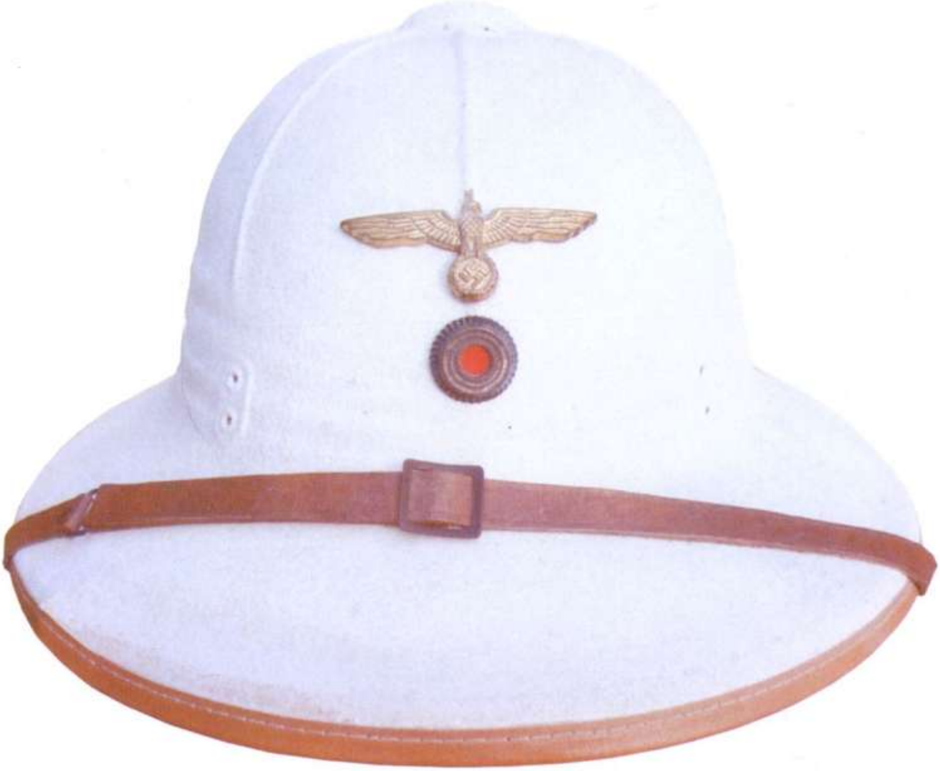
Otto Spronk Photo Collection



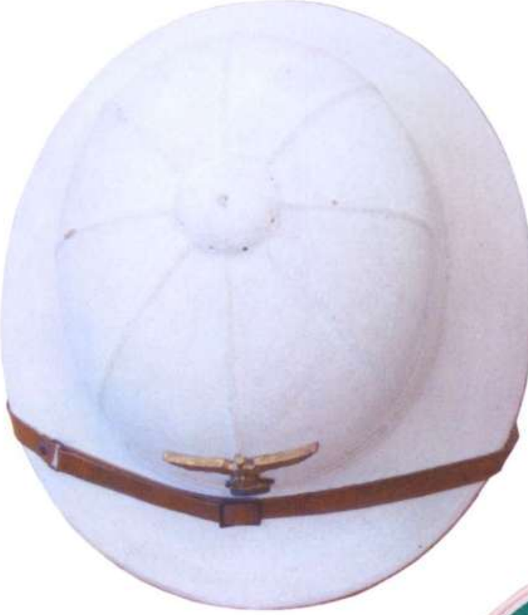
This is a rare example of a *Luftwaffe* issue pith helmet which has been modified by being painted or dyed blue. Examples of pith helmets made from factory dyed blue canvas do exist but are extremely rare. This author has encountered only two such specimens. (Courtesy K. Kithier)

The *Kriegsmarine* Issue Pith Helmet

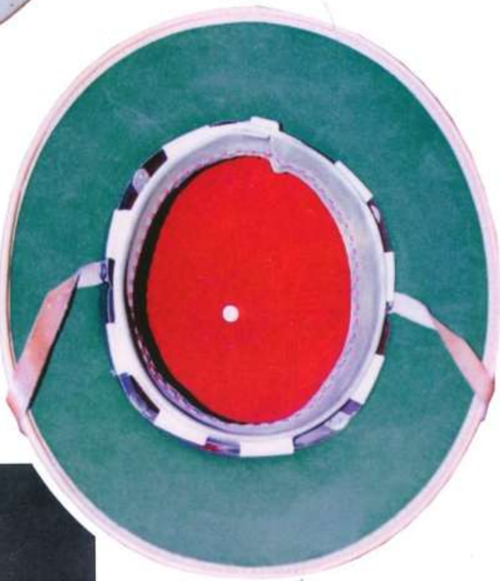
The Navy was the first branch of service to discover the need for a sun-helmet during the pre-war years when personnel of the *Kriegsmarine* found themselves in tropical waters. Some imperial and Weimar era examples saw service in the 1930's and a newly designed single-piece body type which was molded of synthetic materials came into production in 1937. It was a short-lived design, however, and no other pith helmet was used until several types of non-German patterns were taken from stocks of captured materials during the first year of the war. The "birth" of the M1940 leather trimmed canvas pith helmet originated with the *Kriegsmarine* as the earliest examples are found to be the naval model.



The first model pith helmet designed during the Third Reich period was for use by naval personnel. The brim had equal length on all sides as opposed to the later fashion which had an elongated rear brim. The helmet was constructed of a composite plastic material molded to shape with eight vertical protruding ribs. The insignia was the same as used on the standard seaman's "Donald Duck" cap. This pith helmet was not generally accepted and production was stopped after the initial contract. However, a number did remain in stock and are said to have been issued to U-boat crew-men during the war. (Courtesy C. Hartl)

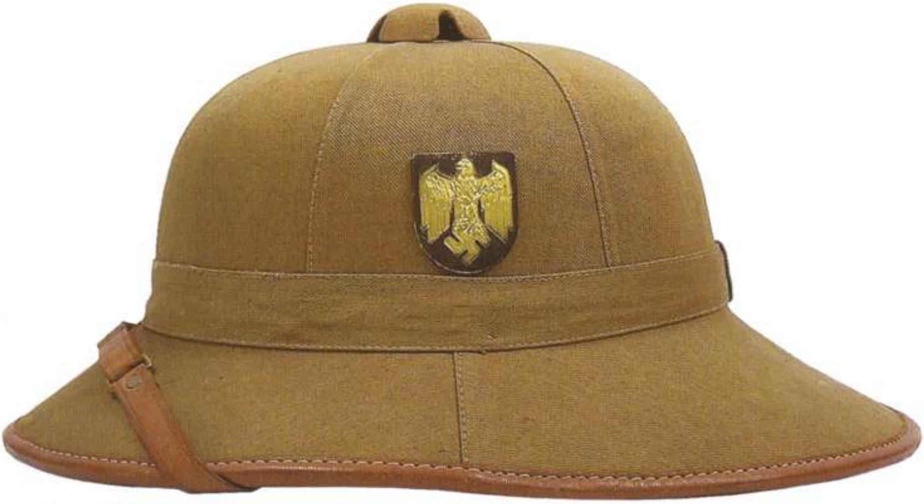


A view from the top of the first issue naval pith helmet shows its single piece molded construction with narrow ribs running downward. (Courtesy C. Hartl)

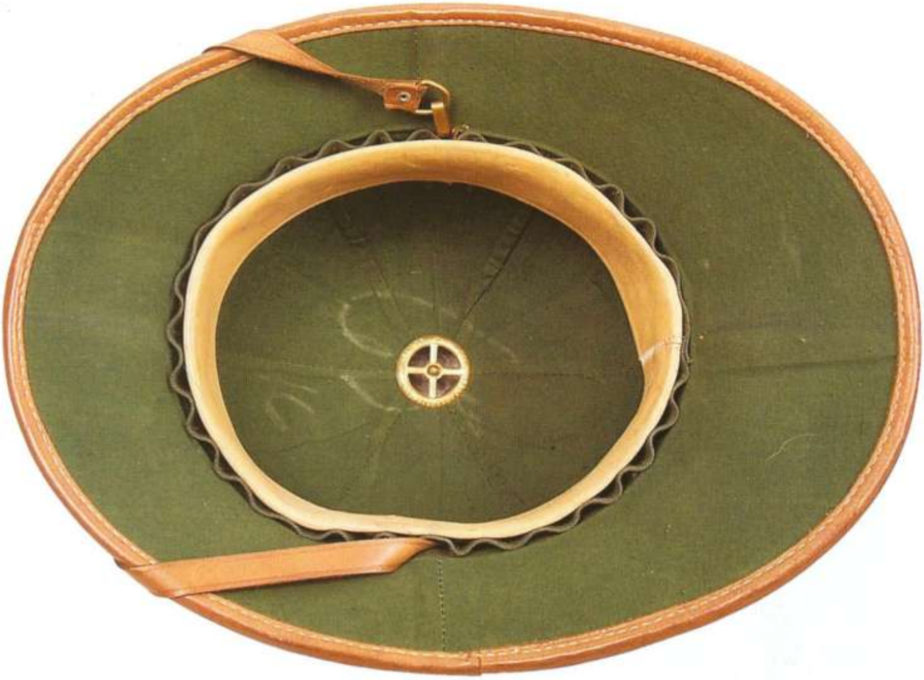


The interior was riveted to the body at four points using pairs of hollow rivets. The inside dome of the helmet was red as later wartime produced models. (Courtesy C. Hartl)

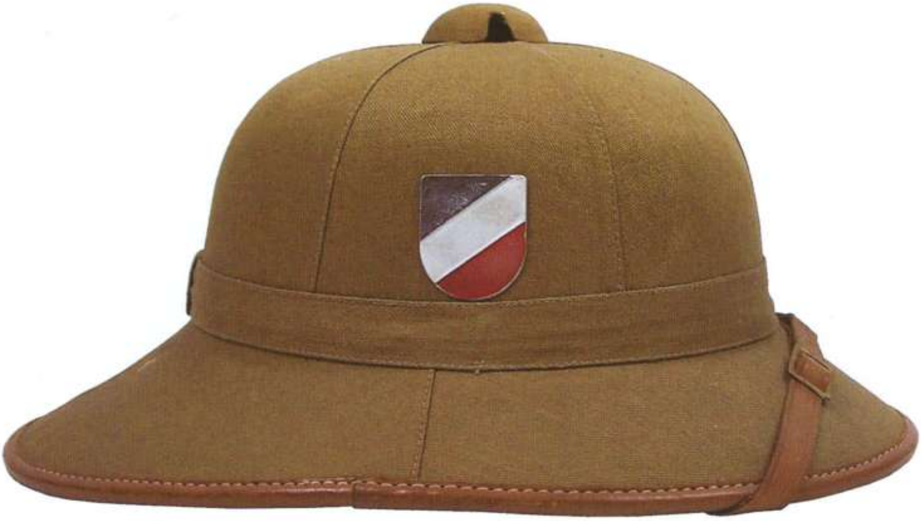
An enlisted man in white dress wears a pre-war KM pith helmet.



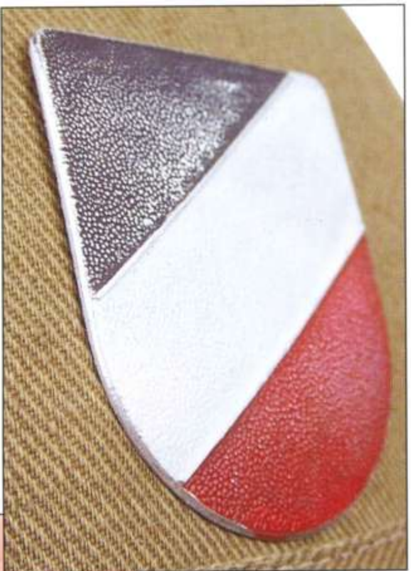
One of the first M1940 tropical pith helmets produced by C. Pose Service Equipment Company of Berlin. This *Kriegsmarine* issue example is dated 1940.



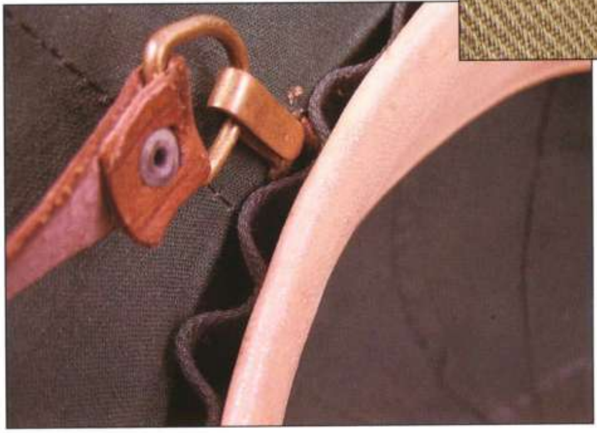
This interior view shows two features unique to early production *Kriegsmarine* pith helmets, the corrugated spacer found between the sweatband and the body of the helmet, and the green color of the canvas inside the crown.



The wearer's right shows the *Kriegsmarine* style national color shield.

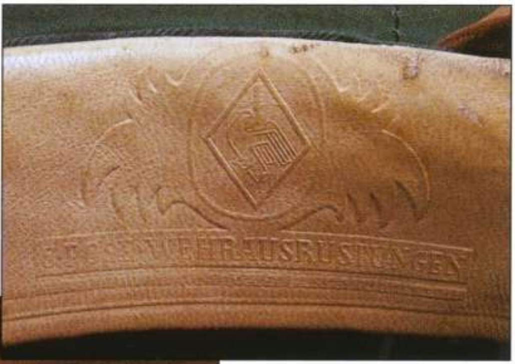


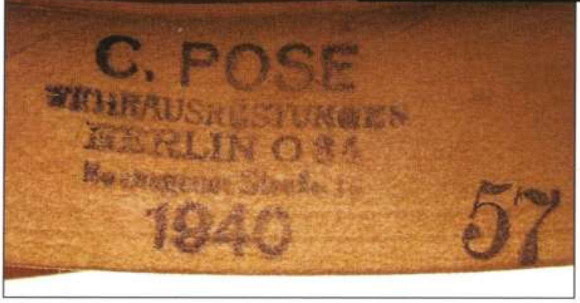
Note the flat and thin construction of the national color shield found on naval issued pith helmets. This feature along with the round bottom shield shape sets the KM national color shield apart from those of the *Heer* and *Luftwaffe*.



A close-up of the corrugated spacer between the sweatband and body.

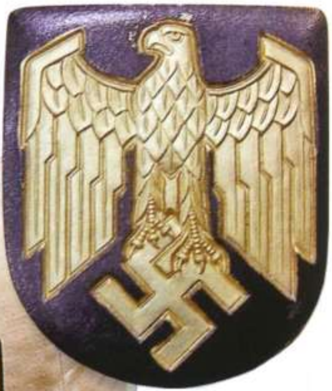
This embossed maker mark on the sweatband indicates manufacture by the C. Pose Service Equipment supplier of Berlin.

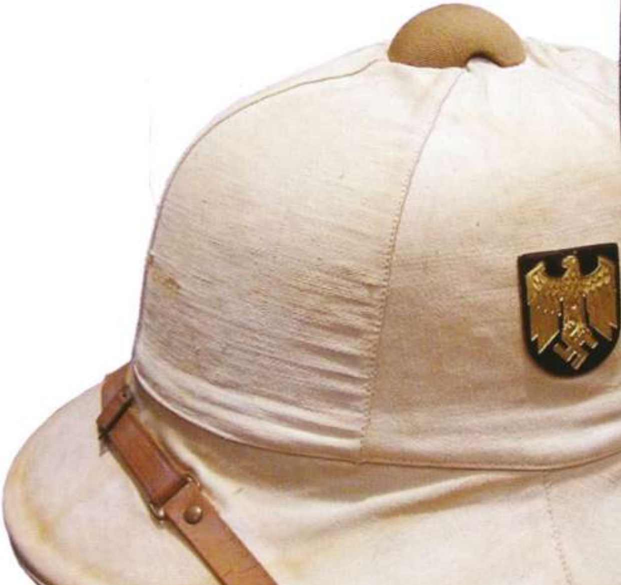




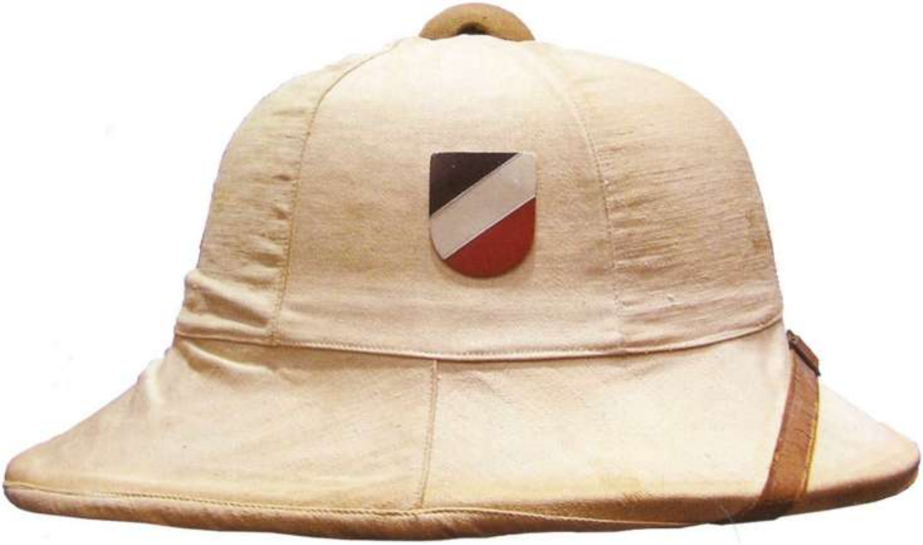
The ink stamp on the underside of the sweatband shows the C. Pose maker name, the 1940 date and the 57cm size marking.

A close-up view of the high quality naval eagle insignia.

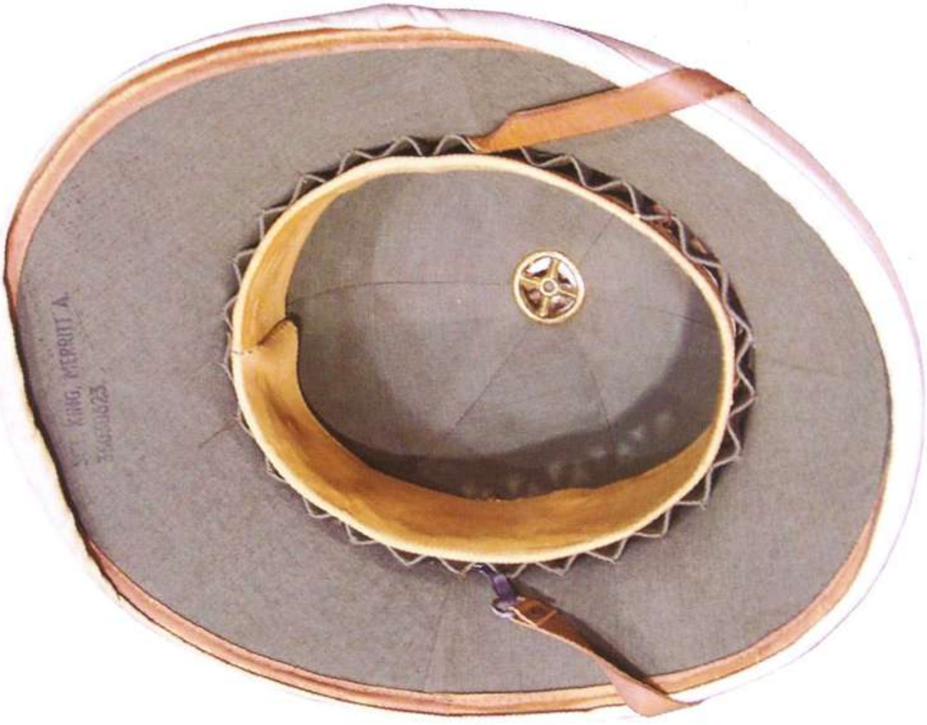




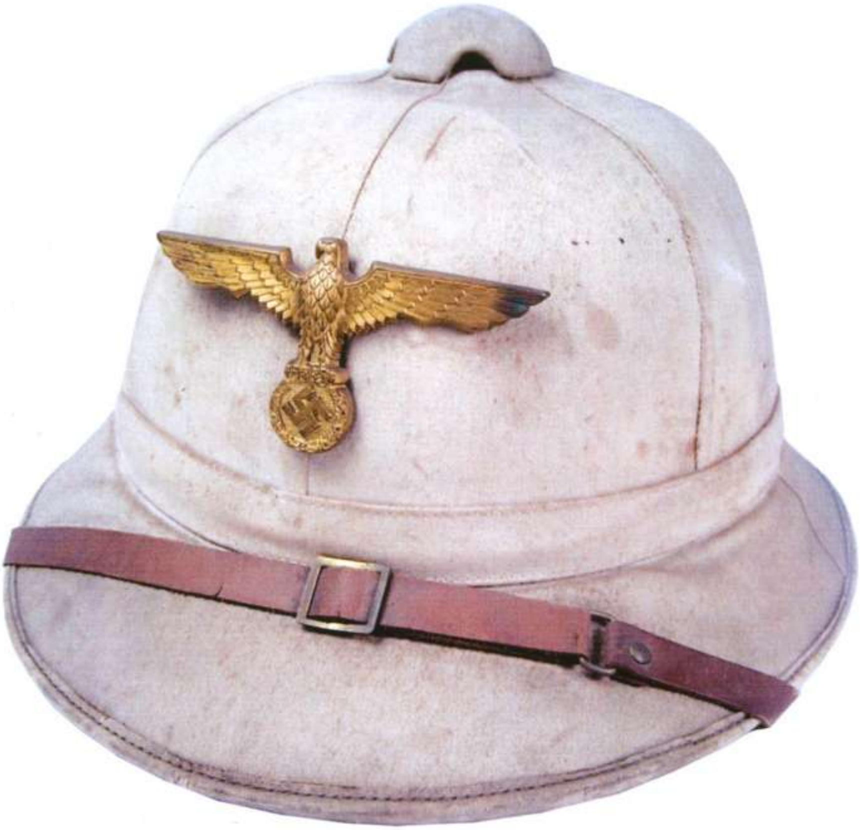
This helmet is equipped with the factory made white cotton cover. This cover was designed to be applied and removed as needed; presumably for dress purposes. Special openings were incorporated for the prongs of the insignia shields and the stem of the vent-knob at the top. (Courtesy R. Distelhorst)



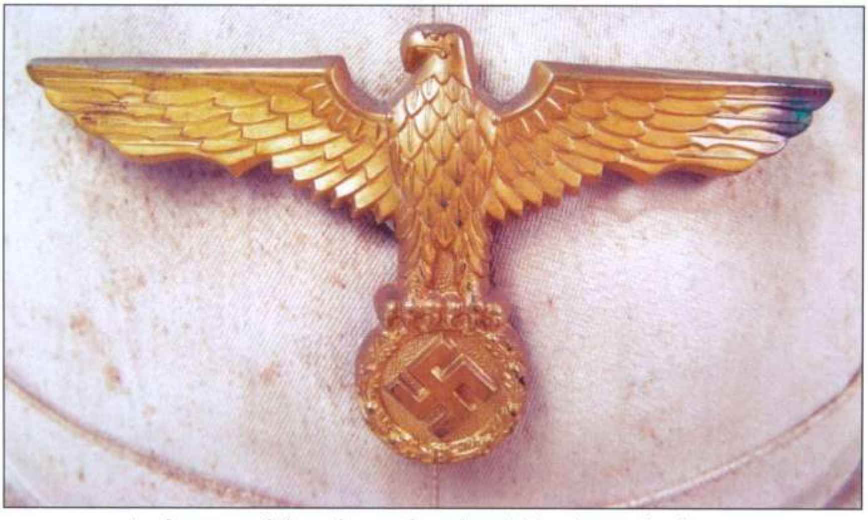
This right side view illustrates the form fitting quality of the white cloth cover. (Courtesy R. Distelhorst)



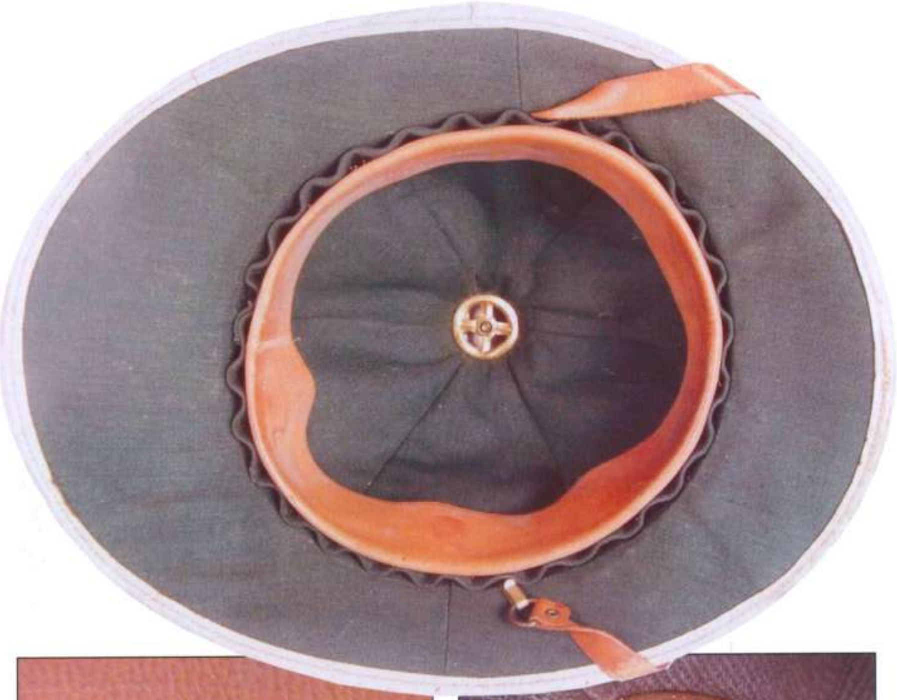
The edge of the white cover is seen here wrapped around the rim of the front and rear visors. The U.S. Army veteran who obtained this souvenir has ink-stamp marked it with his name, rank and serial number. (Courtesy R. Distelhorst)

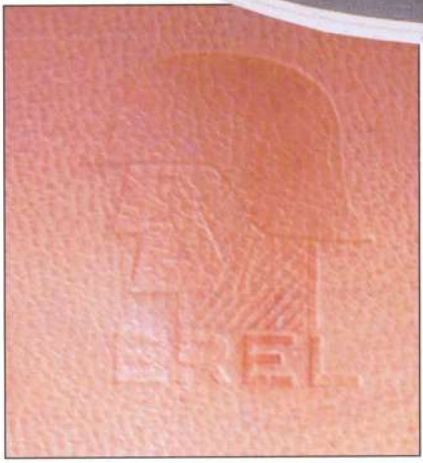


A rare variation of the *Kriegsmarine* pith helmet. This example has a white cloth covered body and white leather trim. A large gilt naval eagle is affixed to the front. It is theorized that white helmets of this sort were probably private purchase and used mainly by officers.

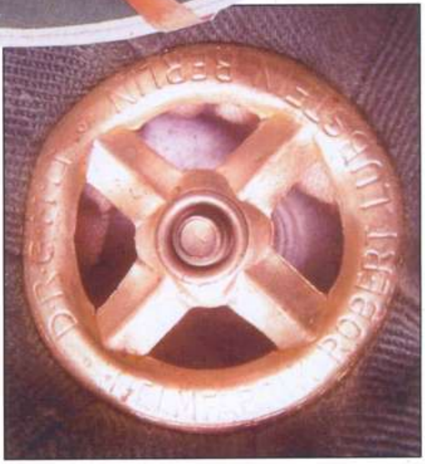


A close-up of the gilt naval eagle which adorns the front.

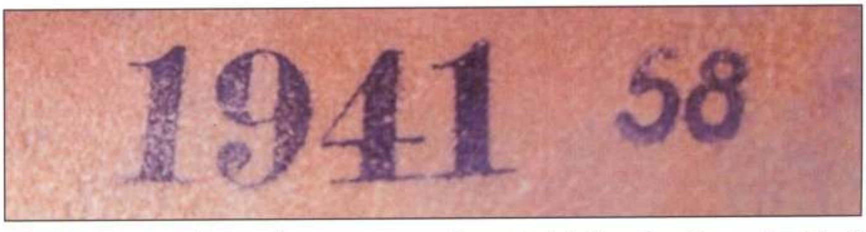




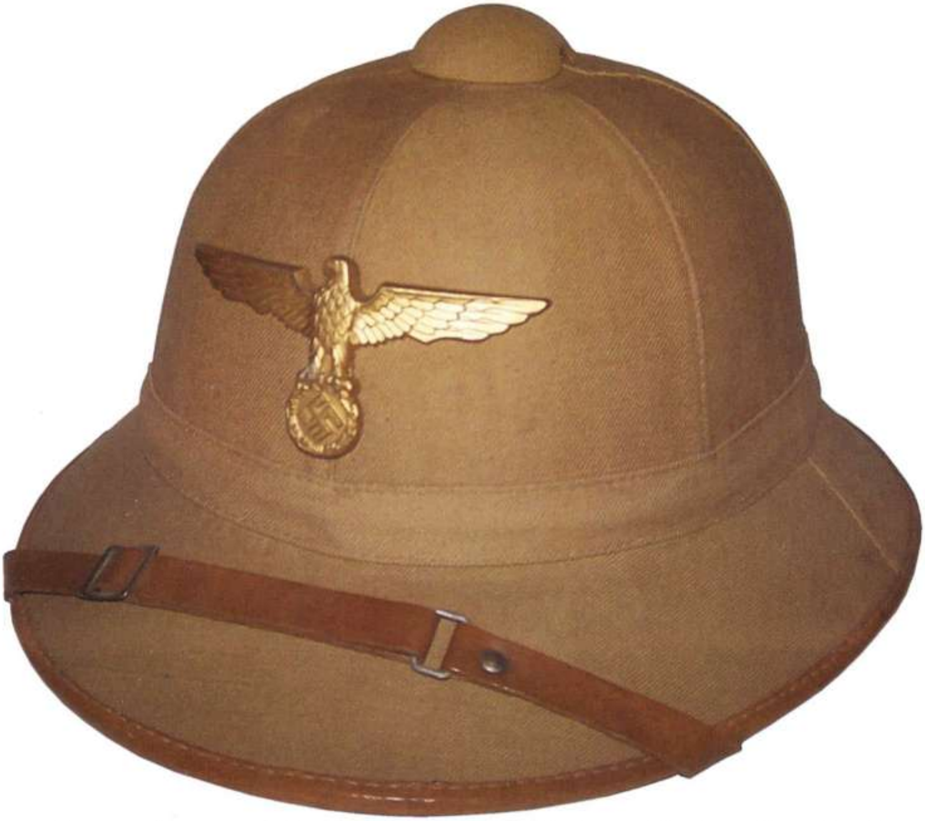
The maker mark found on the inside of the white pith helmet shows the "Erel" logo of the Robert Lubstein company, Berlin.



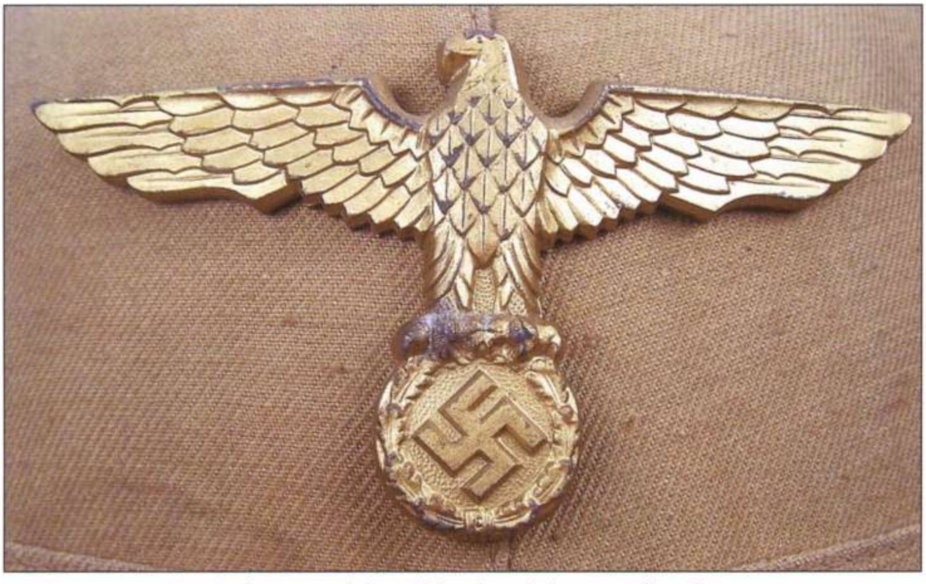
The base of the top air-vent is maker marked "Helmefabrik, Robert Lubstein, Berlin."



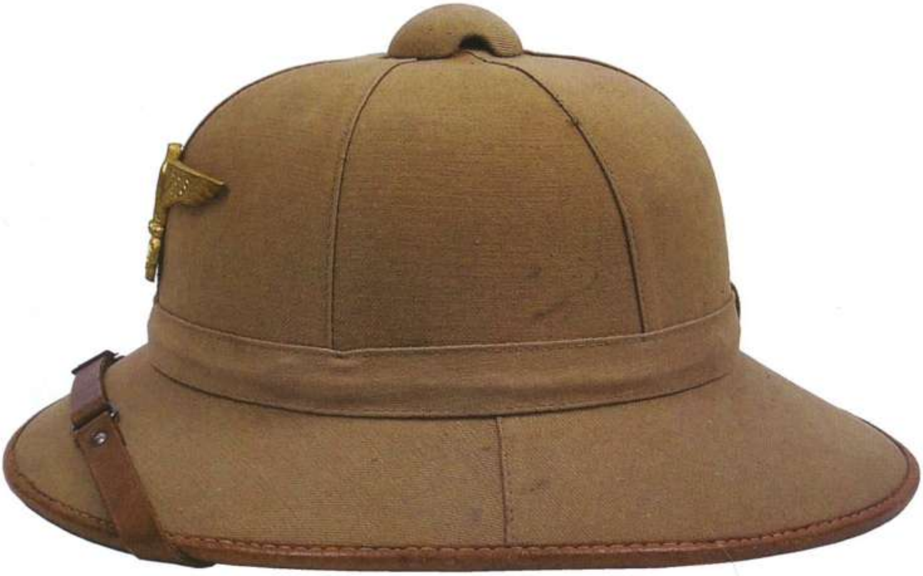
The size stamp and manufacture year marking which is found on the underside of the sweatband.



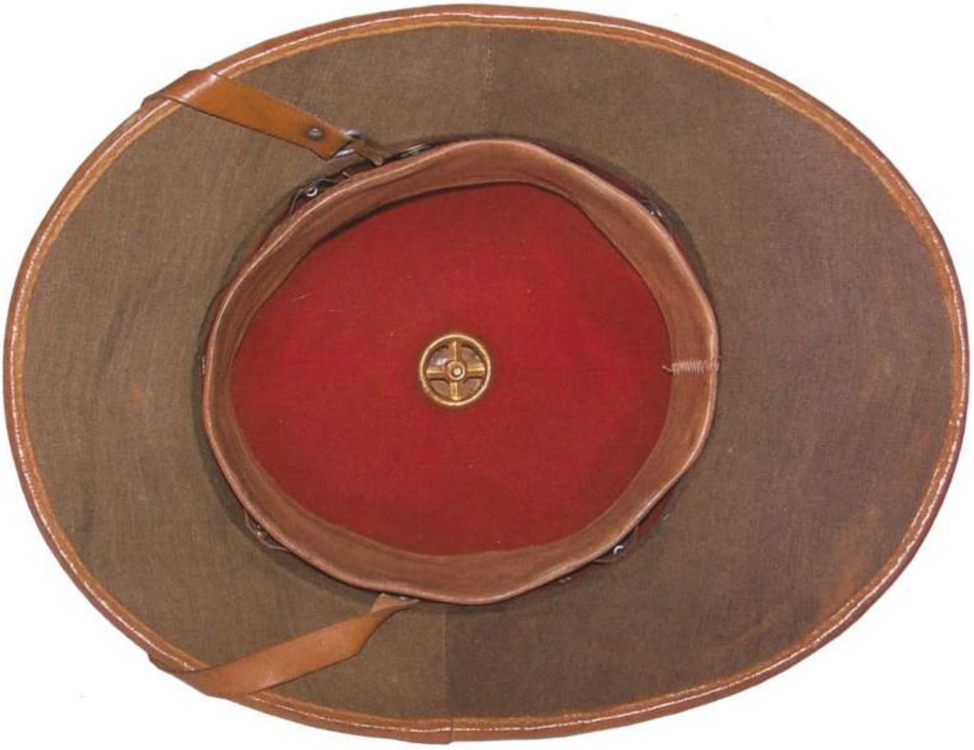
A later produced example of a *Kriegsmarine* pith helmet with a large frontal eagle insignia.



A close up of the gold colored zinc metal eagle.



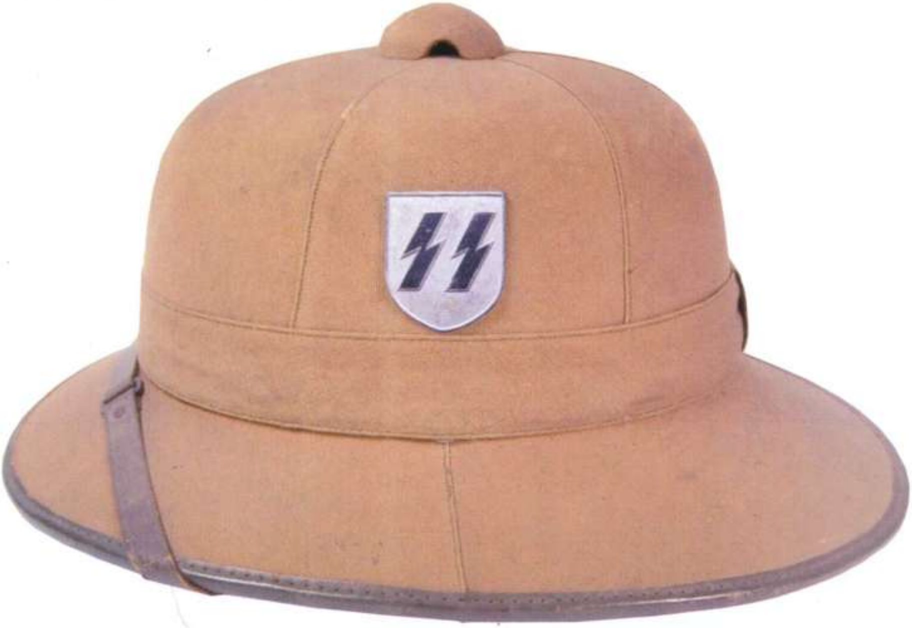
This side view shows the absence of any perforations indicating that there has never been any side-mounted insignia placed.



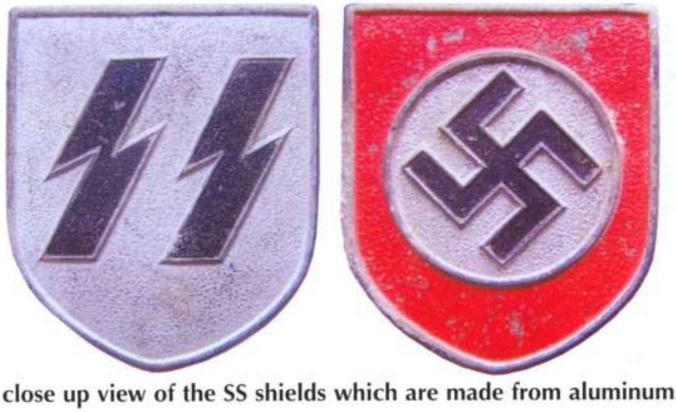
This interior view shows the standard sweatband attachments and red colored inside dome as found on *Heer* and *Luftwaffe* models.

The SS Pith Helmet

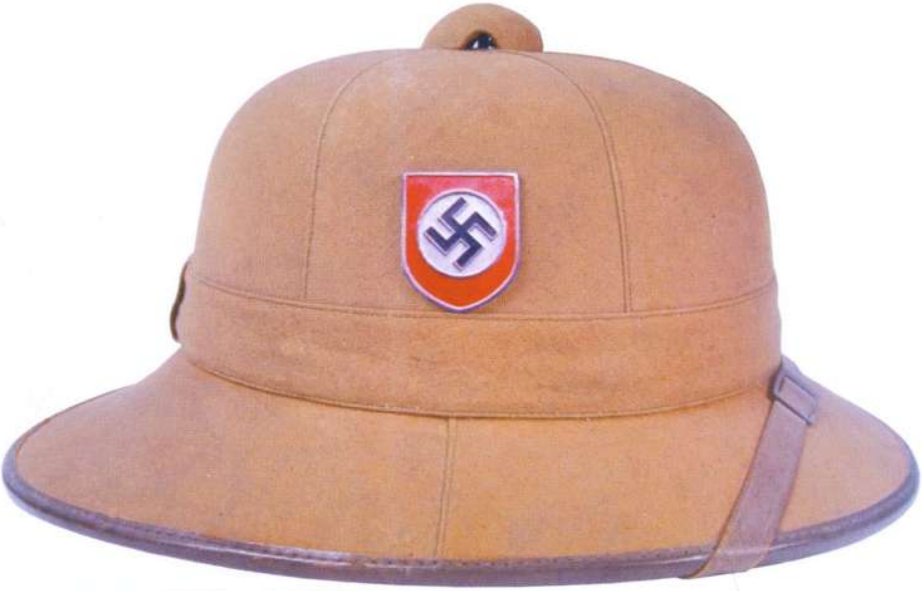
The subject of pith helmets issued to soldiers of the *Waffen-SS* has always been controversial due to the lack of period photographic evidence showing them in actual use. The SS did not take part in the campaigns of North Africa but certainly saw extensive service in Italy, Greece and other semi-tropical areas. Since known original SS pith helmet shields exist and since there would have been a need for such tropical headgear worn by the SS, it is probable that such headgear was in fact issued.



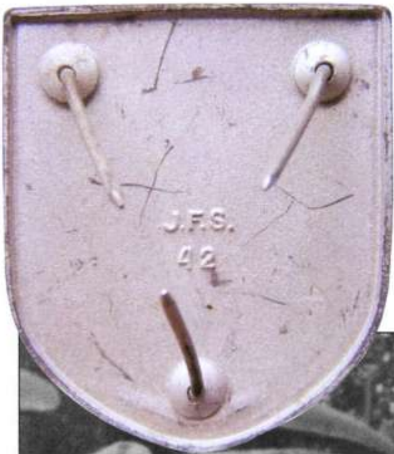
A verifiably original SS issue pith helmet is an extremely difficult thing to find due to the ease of application of original shields to an Army issue pith helmet. The above example has been verified by provenance as being a true SS issued specimen. There are no special SS issue markings or acceptance stamps. The inside bears a simple maker mark and 1941 date.



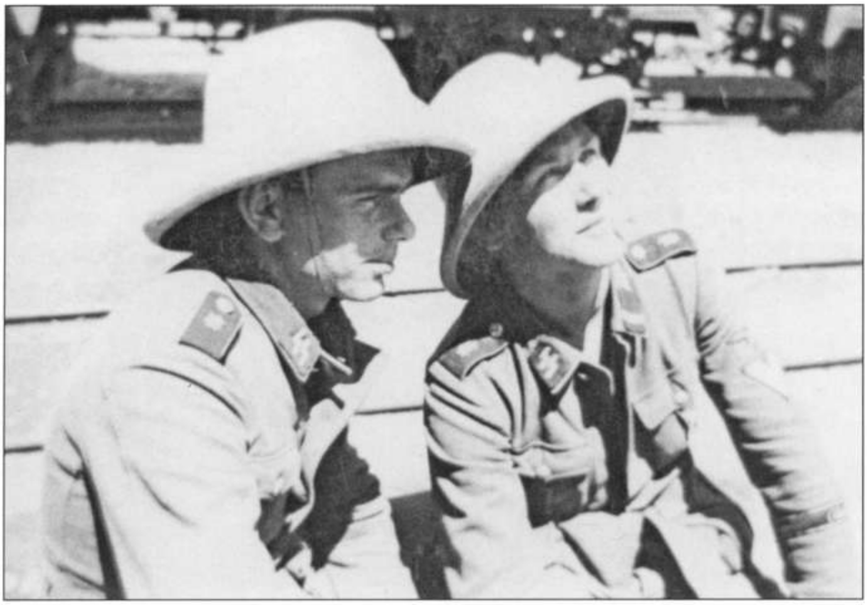
A close up view of the SS shields which are made from aluminum.



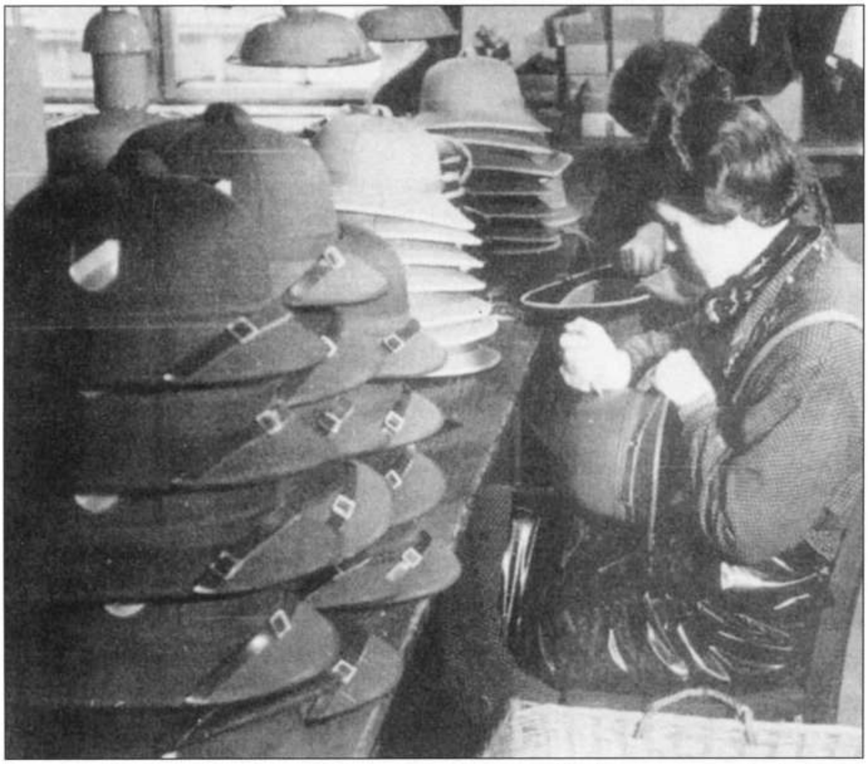
The right side of the Party shield.



The reverse side of an SS pith helmet shield bearing the maker mark J.F.S. 42. Most originals are found with this maker mark and are dated '42 or '43.



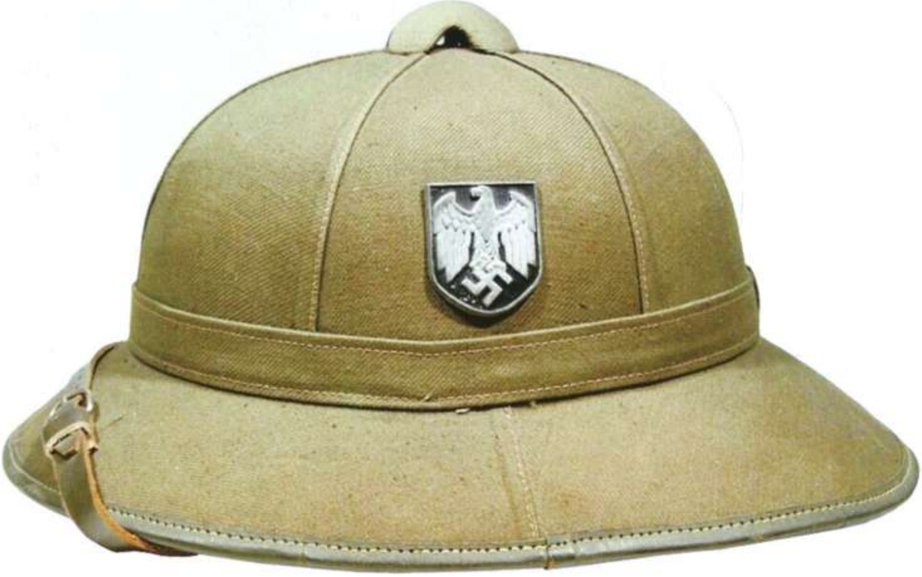
These LAH men wear captured pith helmets.



An original photo showing pith helmets being assembled at a factory. The helmets being completed appear to be a mixture of green canvas *Heer* helmets and tan canvas *Luftwaffe* models. The factory is not identified but the general shape of the helmets suggest those produced by the ORL manufacturer.

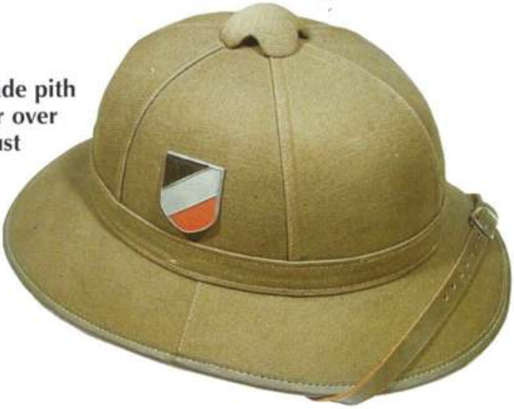
Pith Helmets produced in foreign countries under German contract

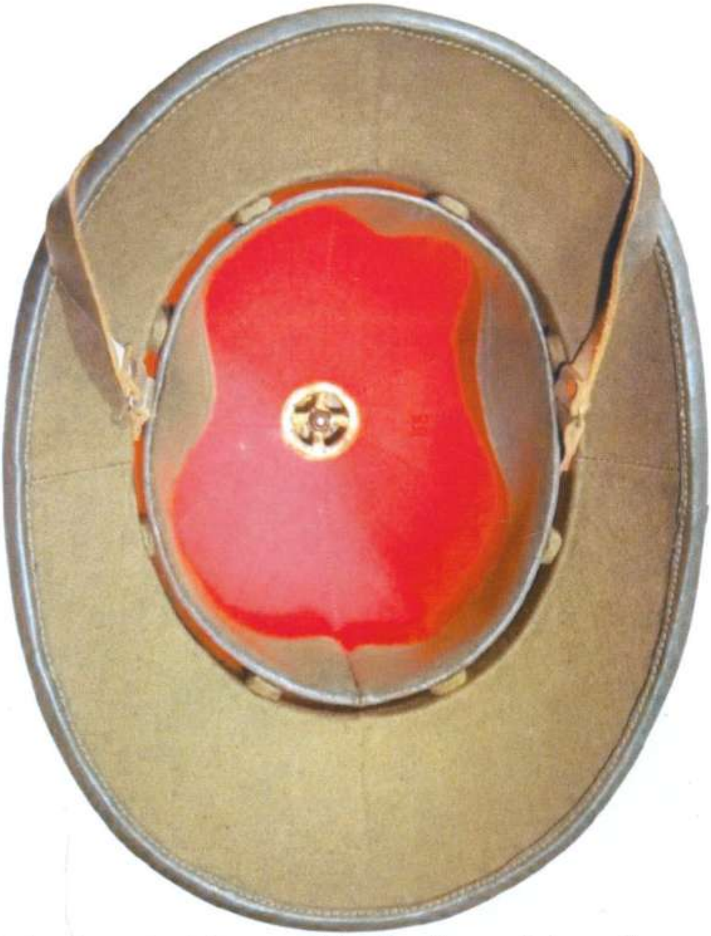
Germany is known to have contracted the production of military uniforms and equipment with companies in occupied countries; companies either German owned/operated or those which belonged to businessmen locally. Several different manufacturers of pith helmets have been identified as having been produced by firms outside of Germany proper. Many bear no particular maker mark but differ slightly in specification.



This green canvas *Heer* pith helmet was produced under *Wehrmacht* contract by a company in occupied France. The body is produced exactly as German made examples. However, it uses a French style chinstrap which has a claw buckle for size adjustment.

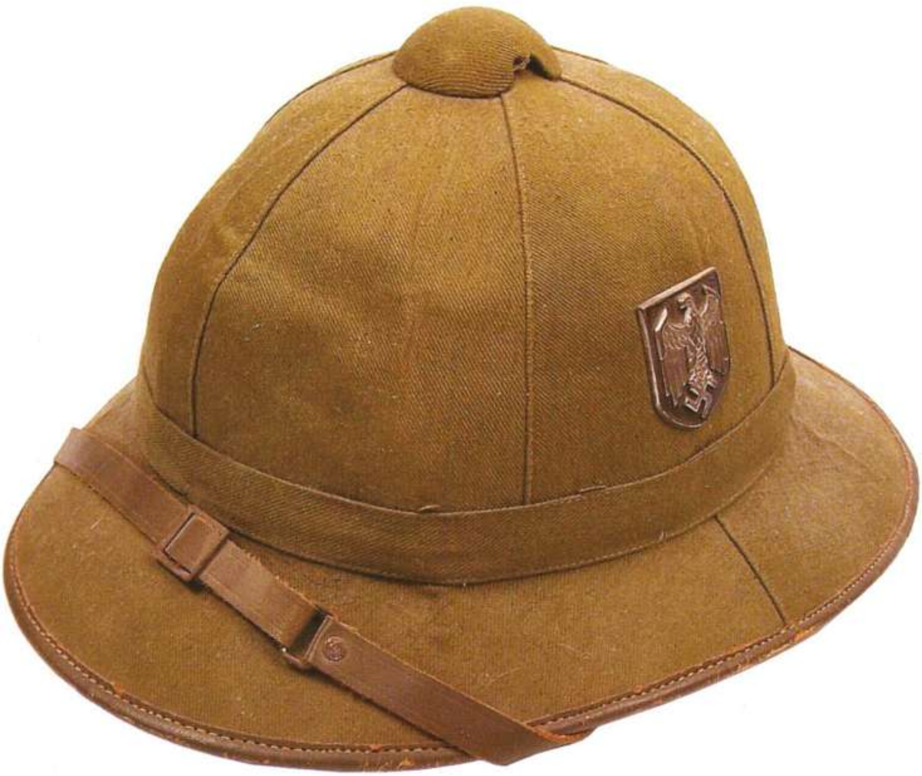
The body of this French-made pith helmet has a six-panel cover over the crown with leather trim just as German-made examples.



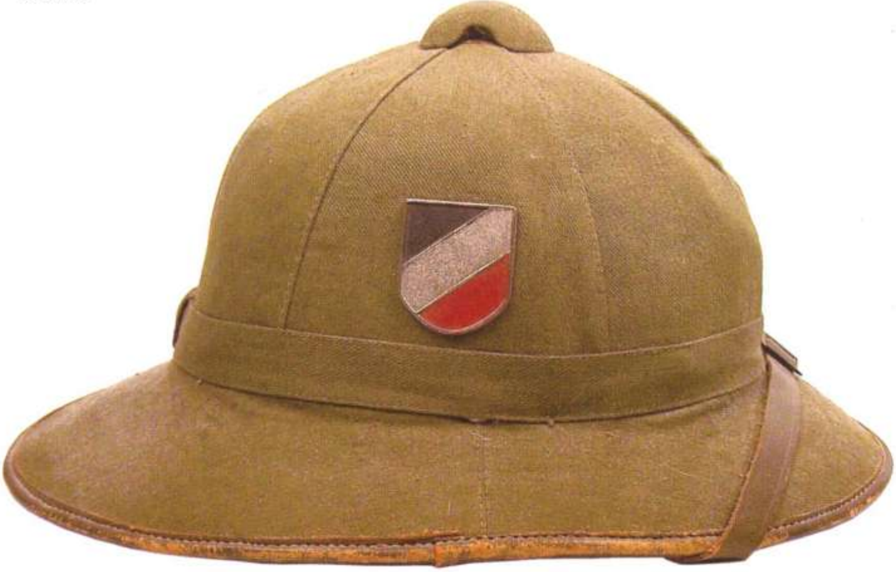


The interior shows the influence of the French manufacturer; the sweatband being connected via eight cloth covered cork discs which act as spacer between the sweatband and the body of the helmet. The helmet is completely unmarked showing only the size stamp inside the red cloth covered crown.

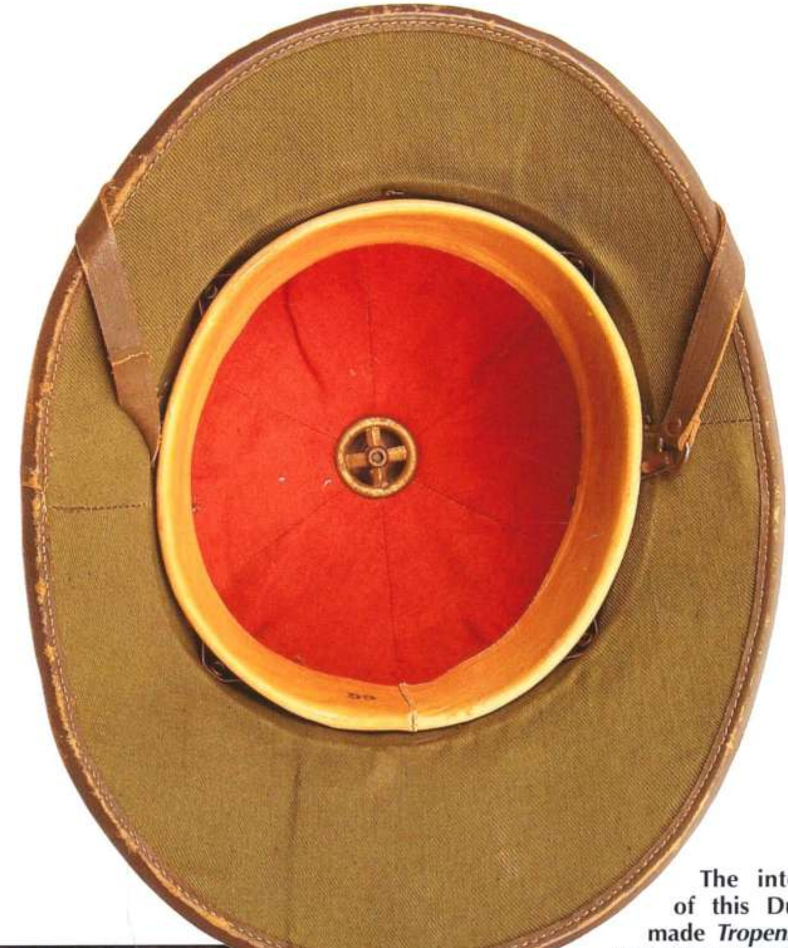
Close-up view of a cloth covered cork disc spacer which is typical of French pith helmet construction.



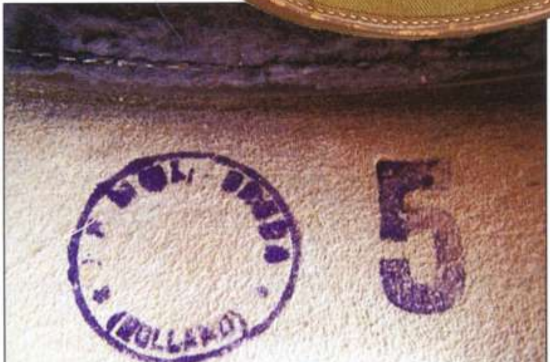
This green canvas *Heer* pith helmet was contracted to be made at a factory in occupied Holland. The main characteristics are the same as those produced by German companies. There is, however; a noticeable difference in the shape of the crown.



This right side view of the Dutch-made pith helmet shows the more rounded crown portion of the body.



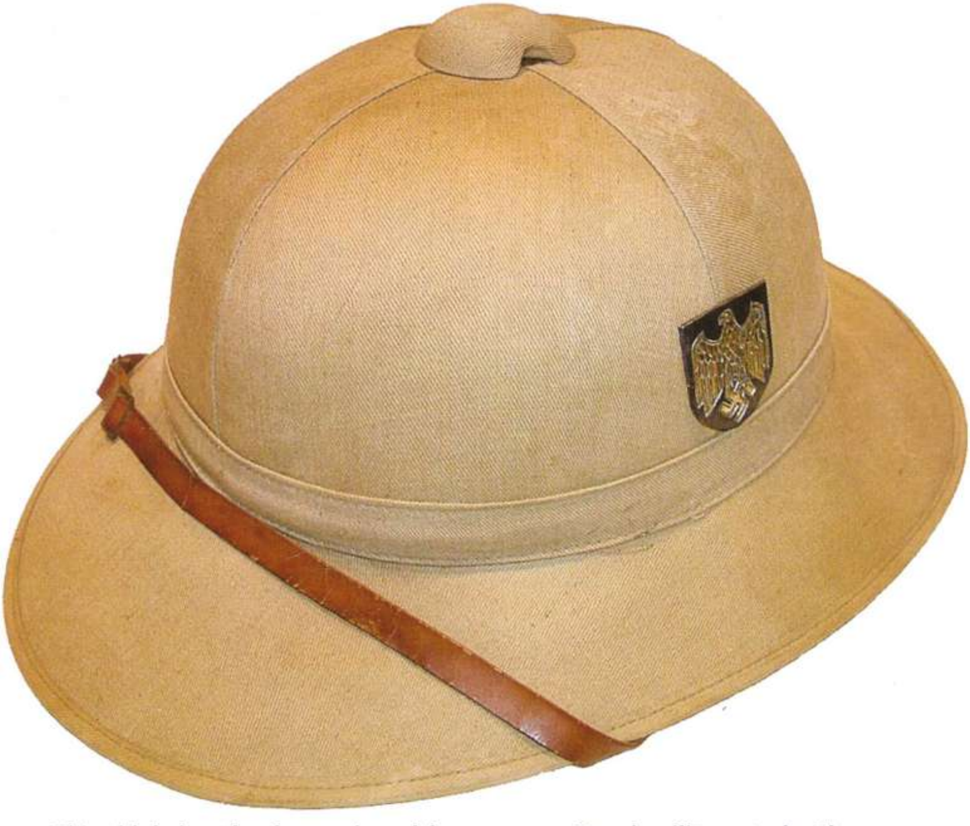
The interior of this Dutch-made *Tropenhelm* shows how closely the manufacturer adhered to German specifications with regards to materials and construction.



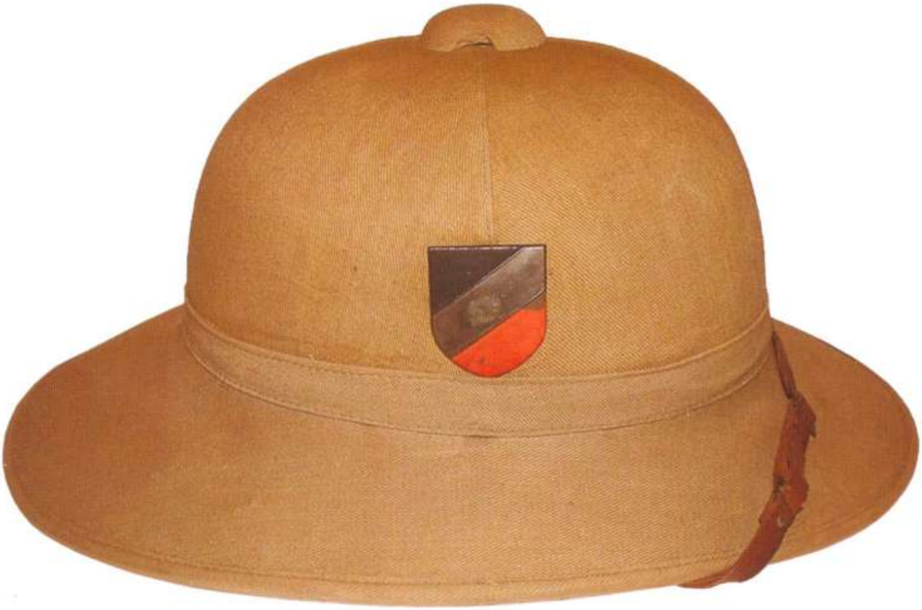
The manufacture mark found on the sweatband indicates the location of the hat maker in the municipality of Breda, southern Netherlands. It is interesting to note that the name "Holland" is written in English. As long ago as the early 20th century, items which were made for export generally had the country of origin written in English. This international agreement was not completely changed even during Nazi domination of Europe.

Foreign Pith Helmets Reutilized by Germany

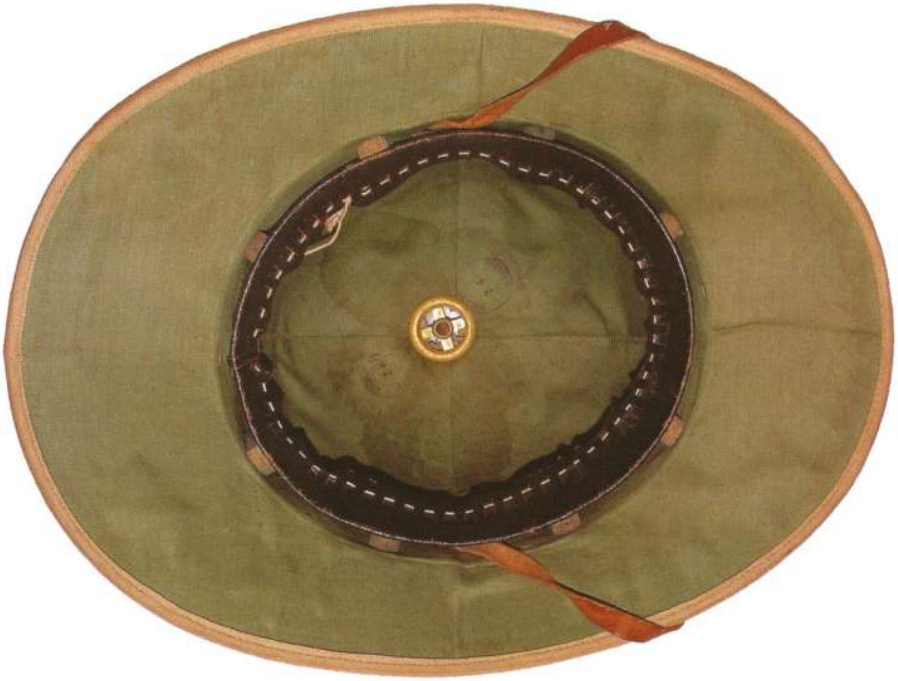
When Germany first discovered the need for tropical headwear, existing stocks of captured enemy materials or those "borrowed" from her allies were accepted for use with minor modification; mostly the application of German branch-of-service insignia. By the time that production caught up with the growing need for tropical pith helmets, this practice was largely done away with. However local contingencies may have caused such items to be reutilized throughout the campaigns in the Mediterranean.



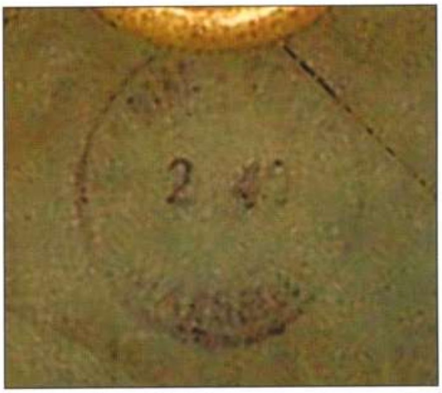
This pith helmet has been reissued from pre-war French military stocks. The construction is very similar to German contracted pith helmets. A *Kriegsmarine* eagle and national color shield have been applied at the sides. Encountering "captured" French pith helmets which have been used by the *Kriegsmarine* is not a rare occurrence. As mentioned above, the German Navy, having taken possession of French warm water ports in the Mediterranean in June of 1940, found a sudden need for such headgear well in advance of the other service branches. (Courtesy C.Guillon)



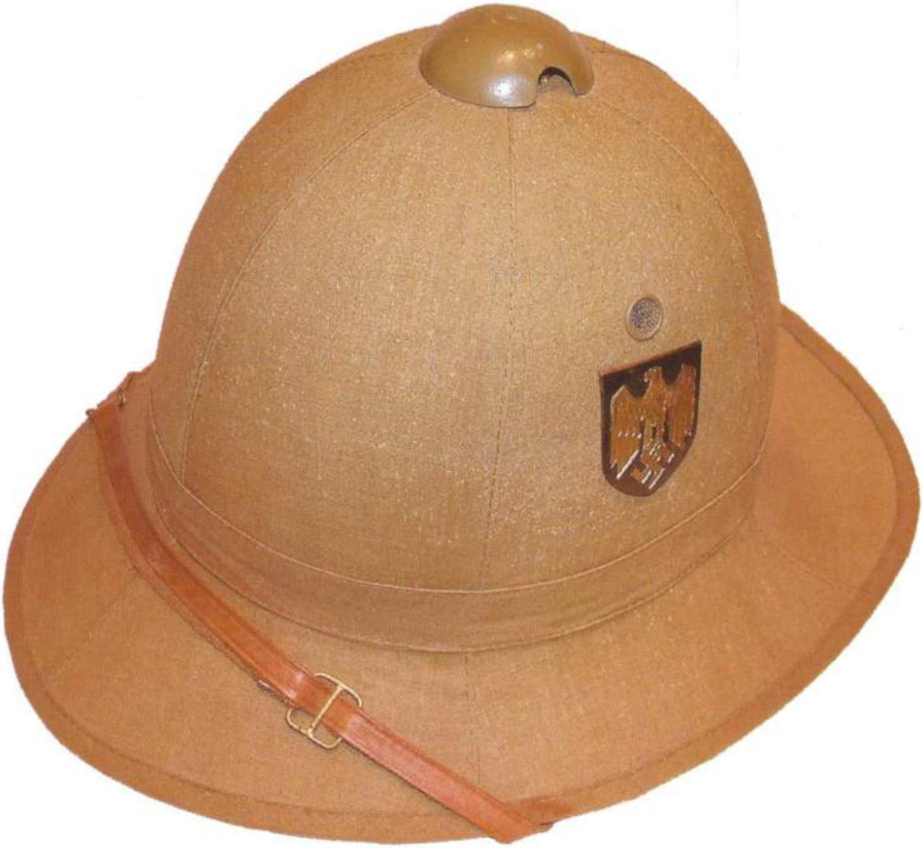
The national colors side of the French-made *Kriegsmarine* pith helmet. Collectors of naval uniforms and headgear will find many examples like this or items requisitioned from French stocks due to the large number of *Kriegsmarine* installations in occupied France. (Courtesy C.Guillon)



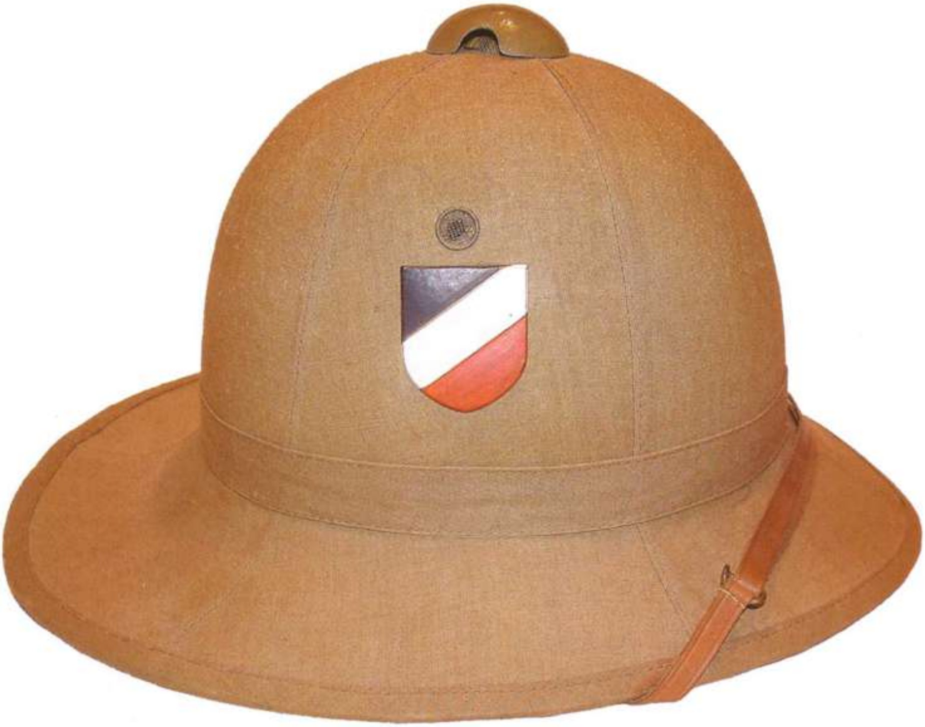
The interior of this French-made pith helmet shows the sweat band and round cork spacers which are typical of pith helmets produced in France since the 19th century. (Courtesy C.Guillon)



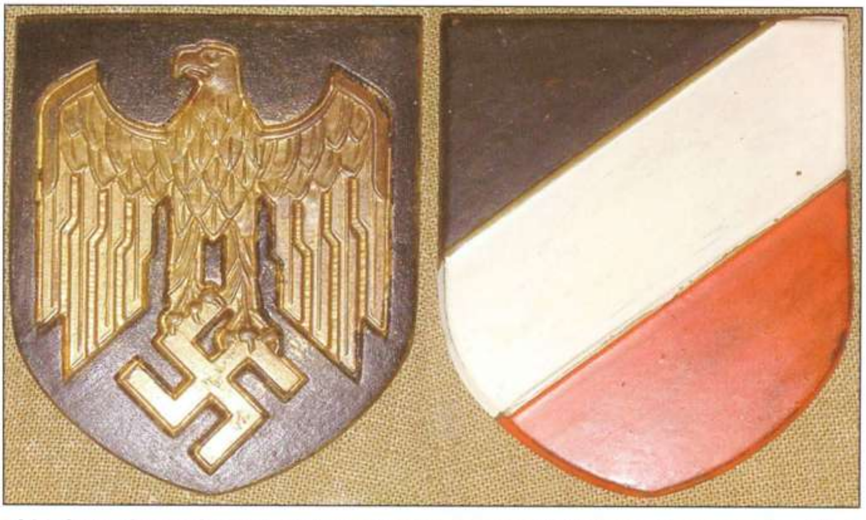
A close-up of the maker mark applied by a manufacturer in Marseilles. Utilizing the standard French method of dating military contracted items, the first number is the *"trimestre"* (meaning a group of three months); the second is the year of manufacture (either in two digits, or in full). The "2-40" therefore indicates it was manufactured in the second quarter (between April and June) of 1940, just before the German invasion of France.



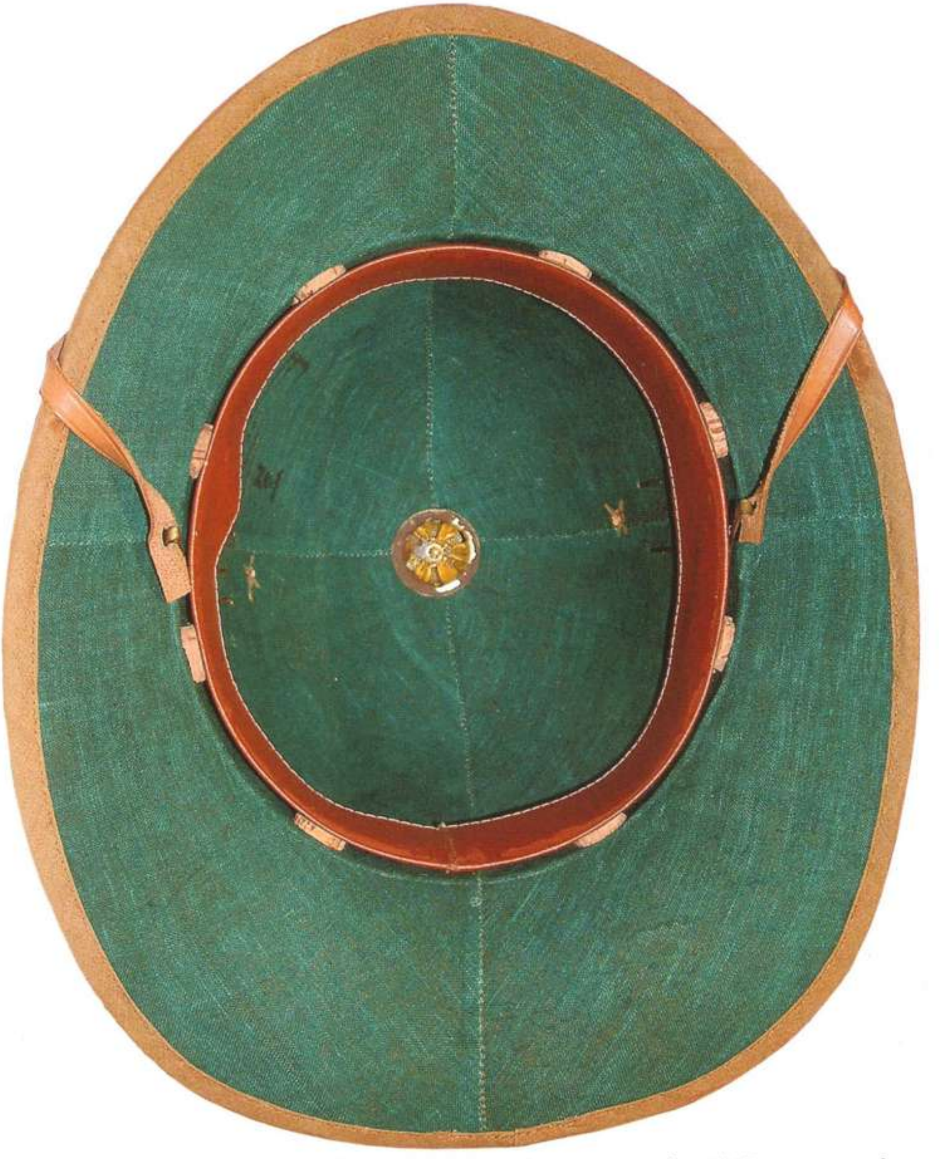
This pith helmet was procured by Germany from her Italian ally and reissued for use by the *Kriegsmarine*. It bears German naval insignias on both sides. (Courtesy C.Guillon)



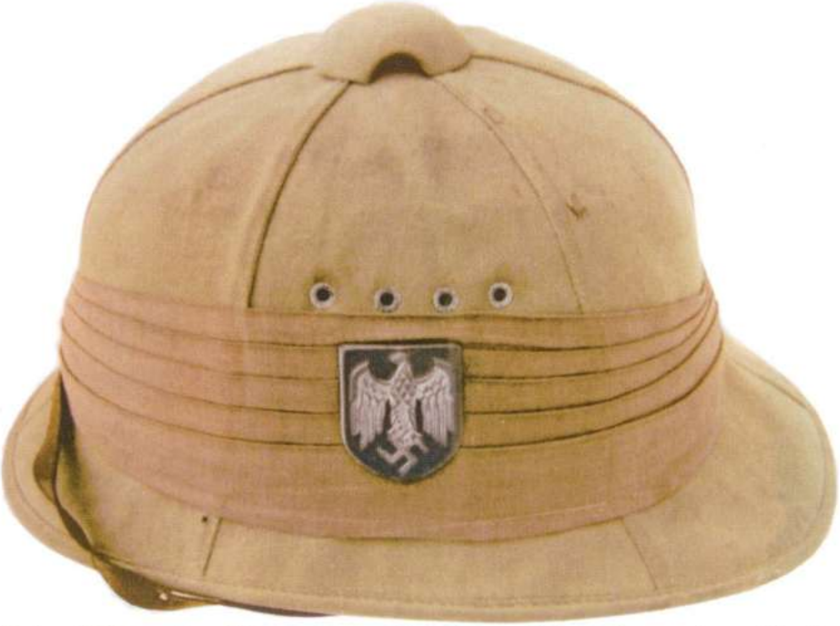
The wearer's right side of this reissued Italian pith helmet. (Courtesy C.Guillon)



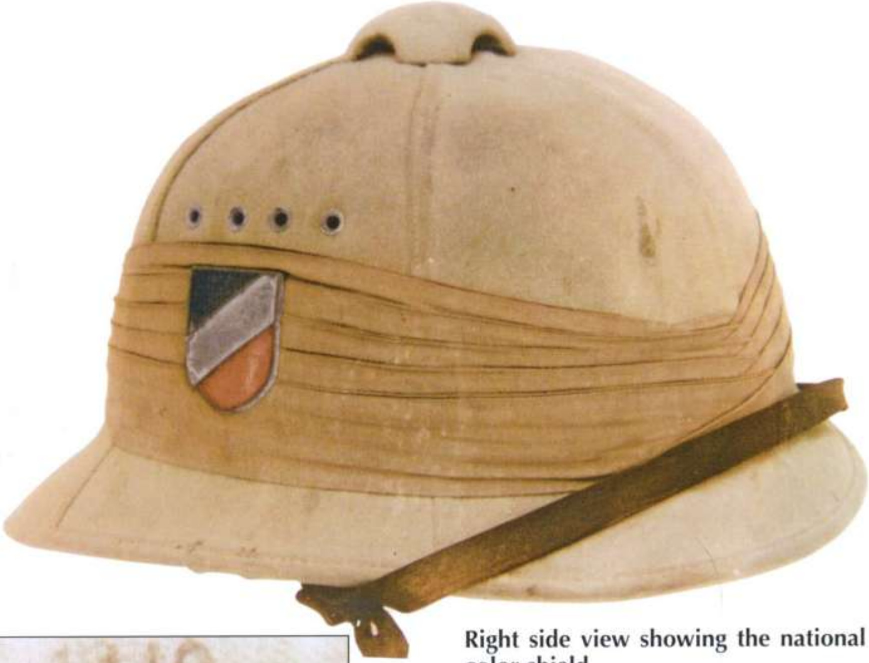
This photo shows the variant *Kriegsmarine* insignia (which may be termed as "theater-made") found applied to the Italian pith helmet. Note that the national color shield has a non-pebbled surface. (Courtesy C.Guillon)



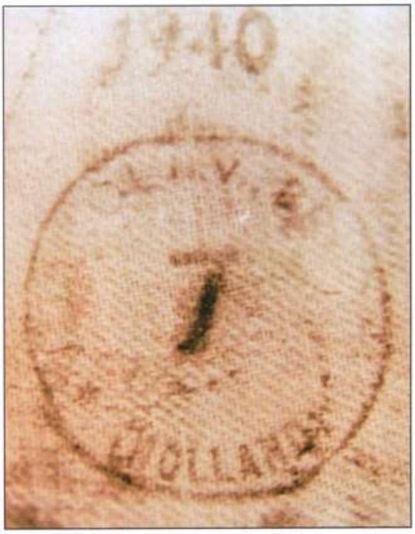
The interior of this Italian reissue pith helmet bears an "Eagle-M" German naval acceptance stamp. (Courtesy C.Guillon)



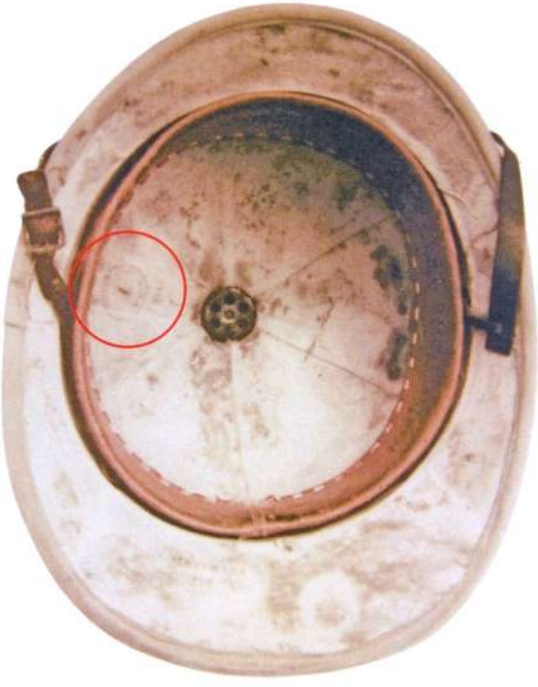
This is a 1940 produced Dutch Army pith helmet which has been salvaged by the Germans and reissued. The only modification being the applied metal insignia shields at the side.



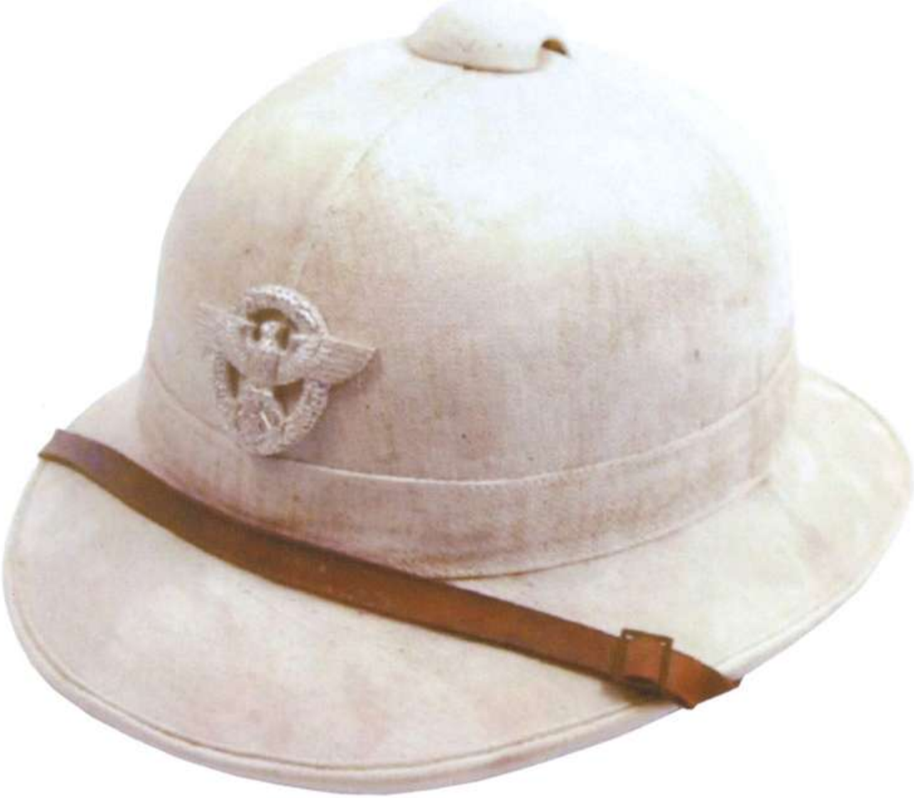
Right side view showing the national color shield.



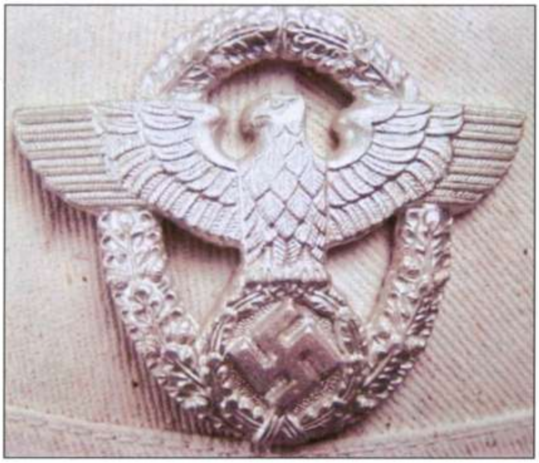
The date stamp in this Dutch pith helmet shows the 1940 date which means it must have been produced in the last months before the German invasion of the low countries. Note that the maker stamp is similar to that found on the pith helmet shown elsewhere in this chapter which was produced by the Dutch, to German specifications.



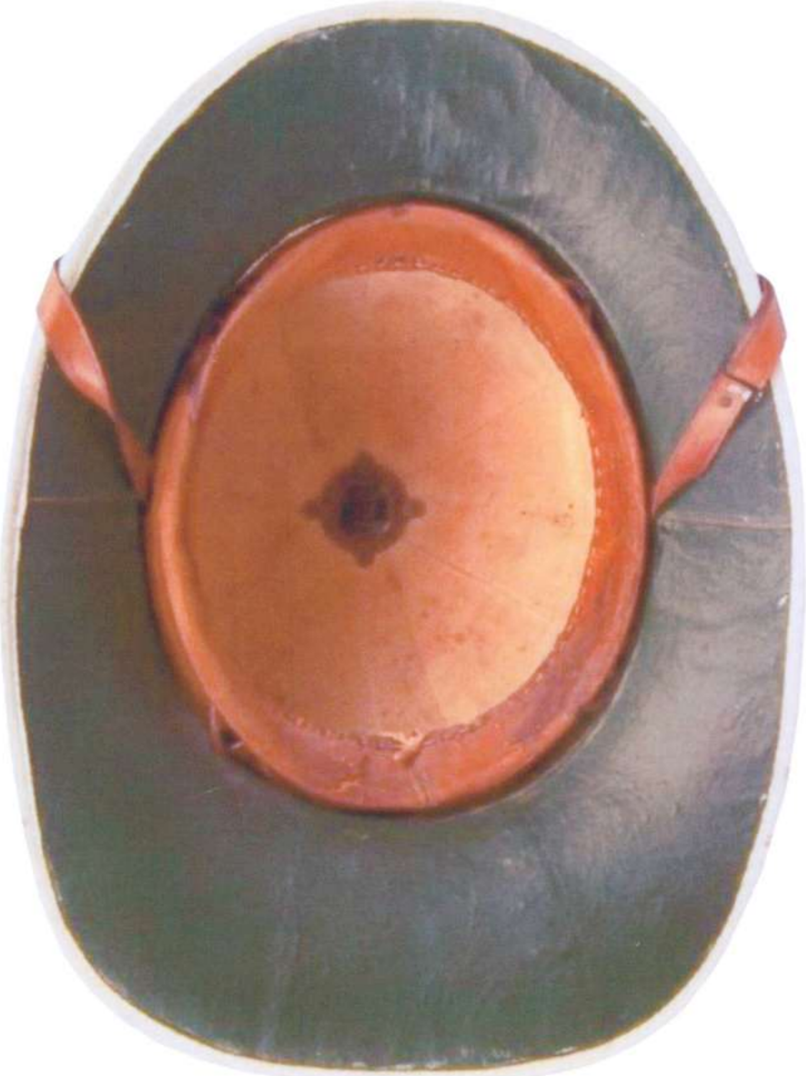
This interior view shows a major difference between the style of the Dutch model as opposed to the German produced models.



This pith helmet is a British "Wolseley" pattern wartime economy model. It was taken from captured British stocks and reissued as a police pith helmet.

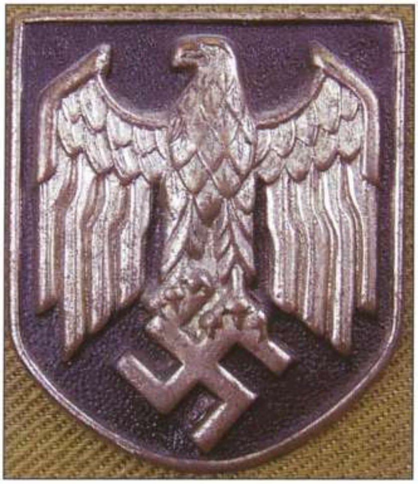


The police insignia which has been attached to the front of this pith helmet is a simple aluminum type which could be found on other types of Third Reich police headgear. As is the case with other "captured" pith helmets of various nationalities, there should be independent provenance to ensure that it is not simply a case of Third Reich insignia being post-war applied to a non-German produced example.

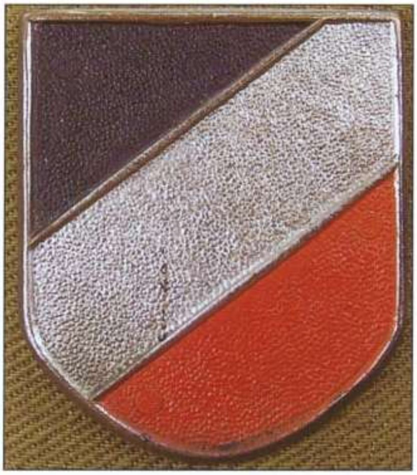


The interior is completely unmarked but is of typical British design.

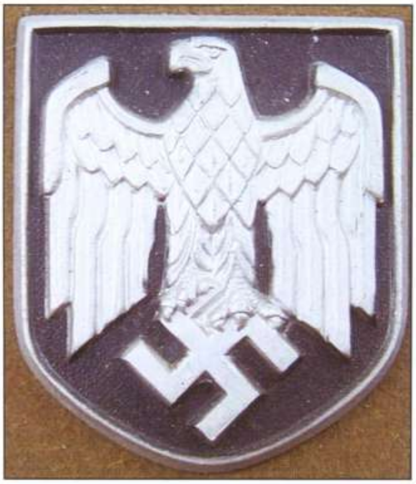
Pith Helmet Insignia



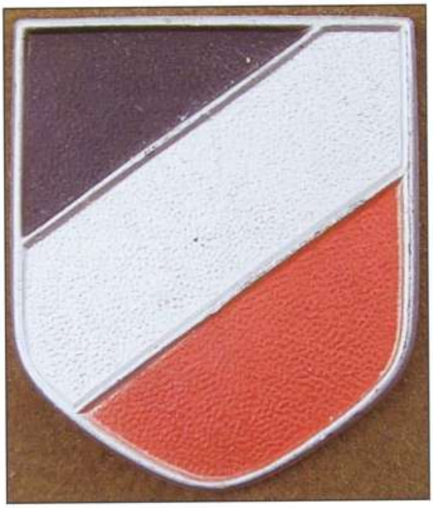
This *Heer* eagle is a fairly early example made from painted brass alloy.



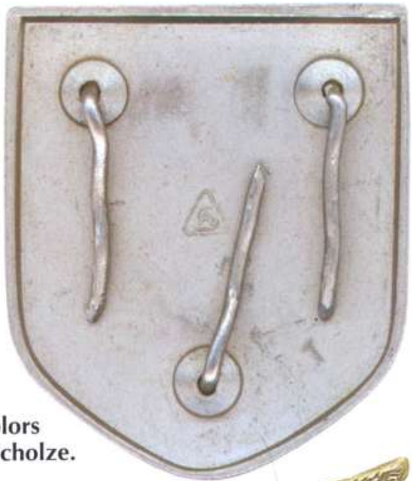
This zinc metal national color shield shows the heads of the rear prongs protruding through the obverse, a necessary measure for the attachment of the prongs due to the impracticality of application by metal fusion.



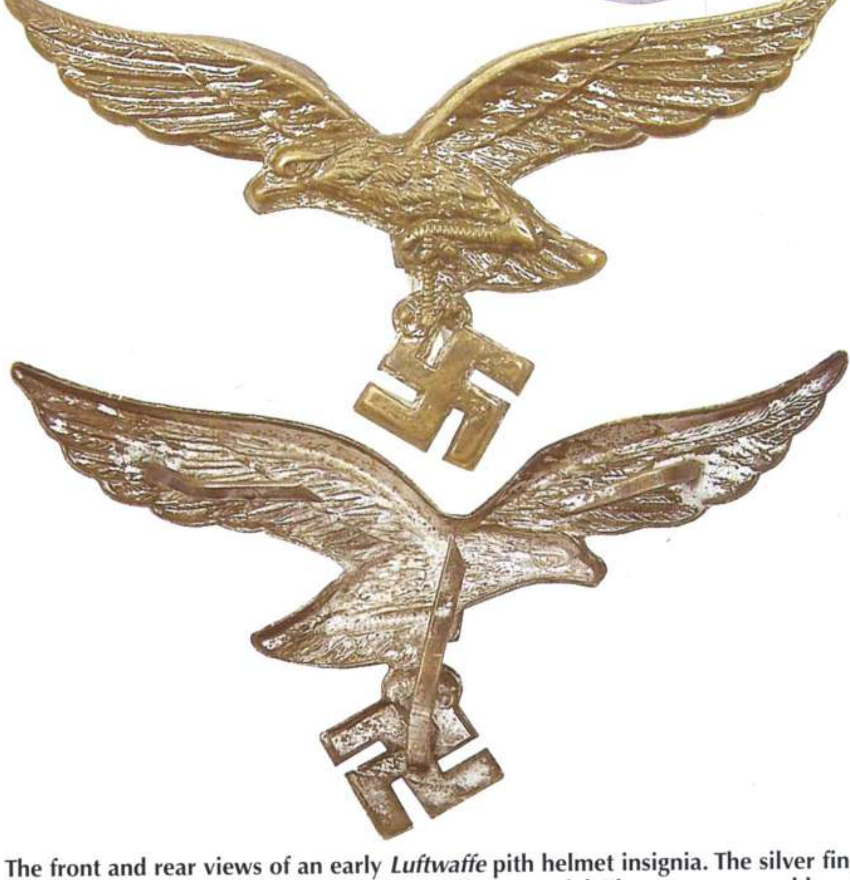
This aluminum eagle shield is of the type manufactured by the "G.B." maker. Note the distinct shape of the eagle's head which is very similar to the G.B. produced *Kriegsmarine* national colors shield pictured on page 406.



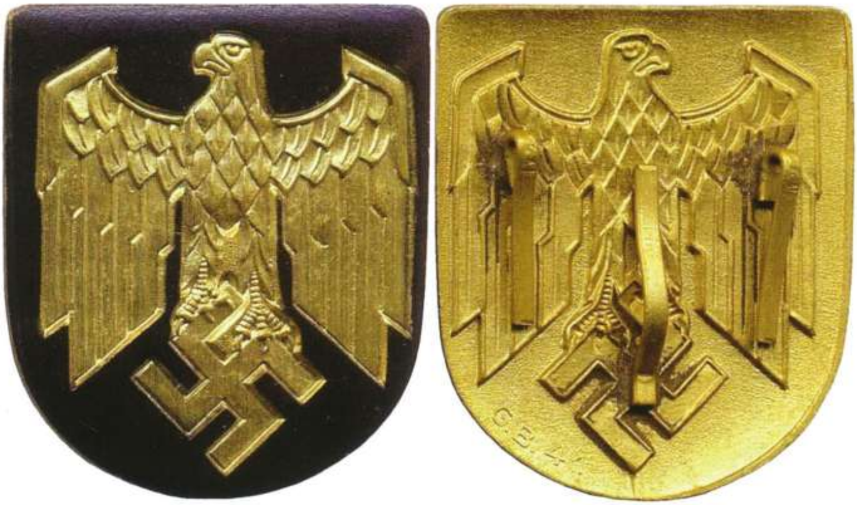
An aluminum national color shield as found on *Heer* and *Luftwaffe* helmets produced from 1941-43.



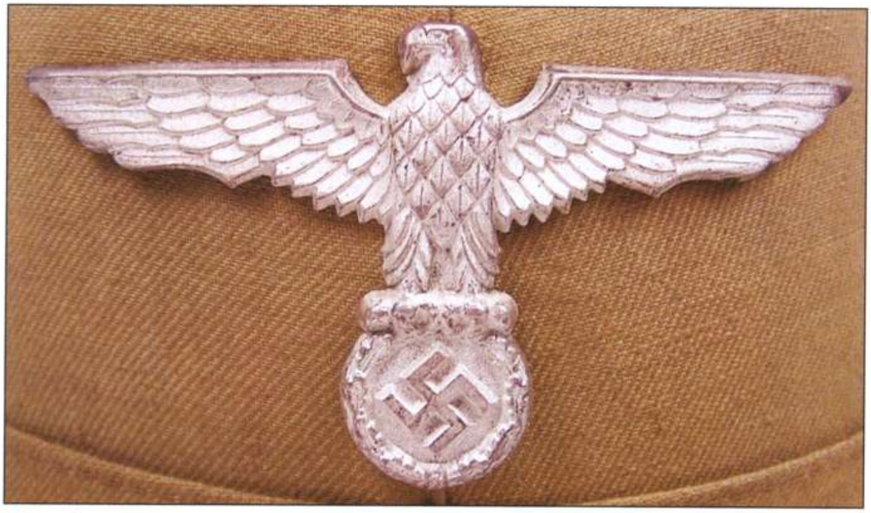
Reverse of a national colors shield made by Adolf Scholze.



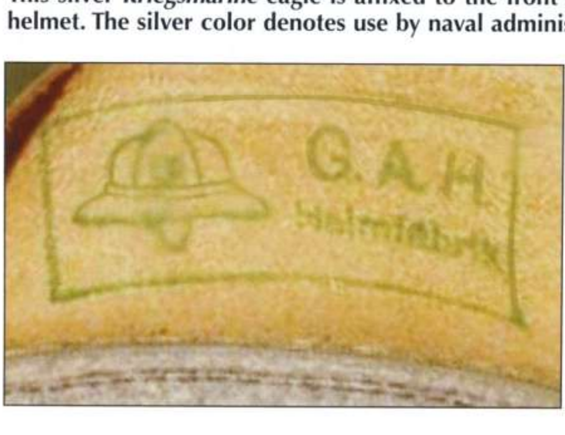
The front and rear views of an early *Luftwaffe* pith helmet insignia. The silver finish is mostly worn off revealing the brass alloy material. The prongs are soldered in place and have a single angular cut at the tips.



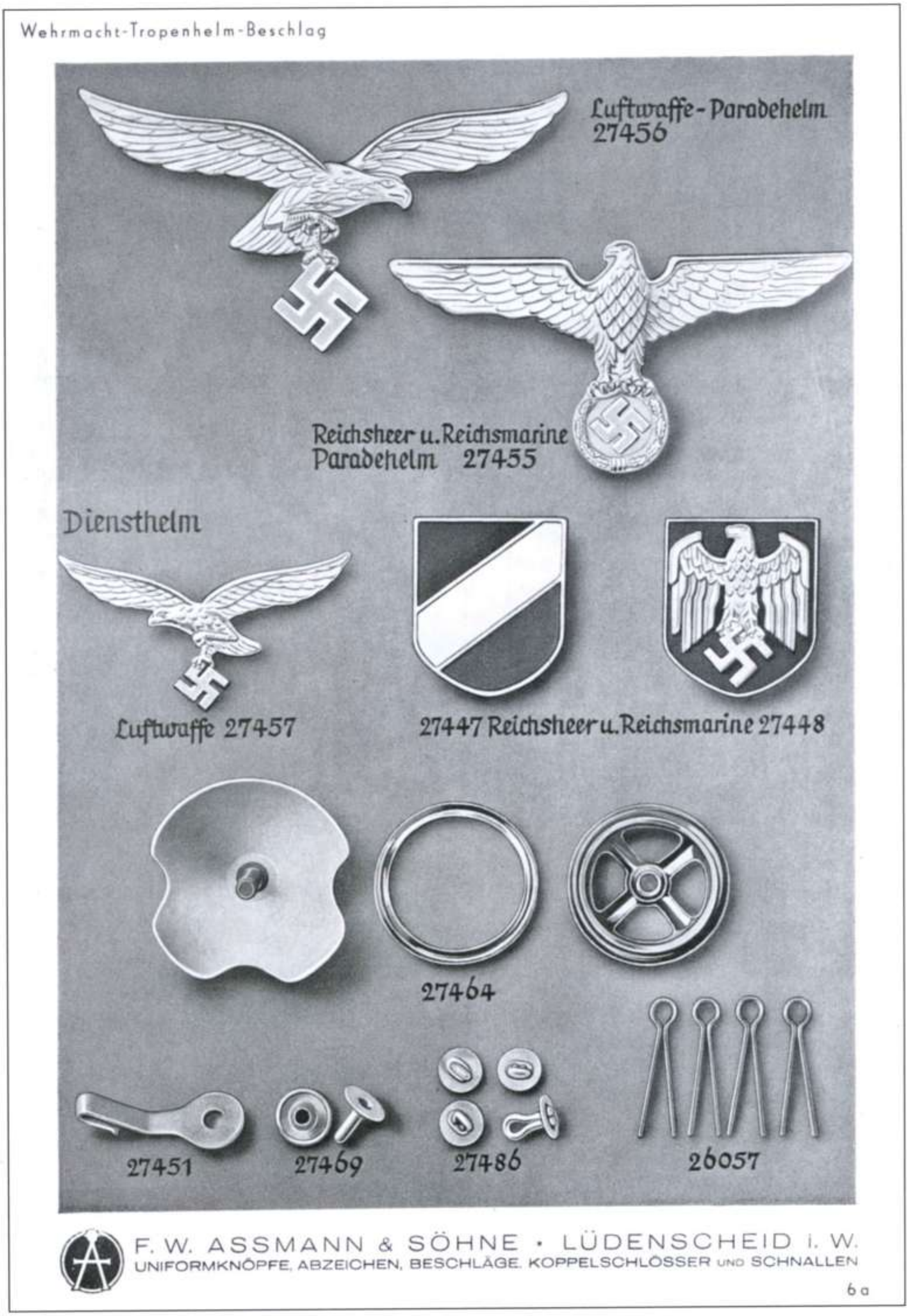
Front and rear views of the *Kriegsmarine* eagle shield, maker marked "G.B." and dated 1941.



This silver *Kriegsmarine* eagle is affixed to the front of a mid-war produced pith helmet. The silver color denotes use by naval administration personnel.



The maker ink-stamp of G.A.Hoffman Helmfabrik.



Wehrmacht-Tropenhelm-Beschlag

Luftwaffe-Paradehelm
27456

Reichsheer u. Reichsmarine
Paradehelm 27455

Diensthelm

Luftwaffe 27457

27447 Reichsheer u. Reichsmarine 27448

27464

27451

27469

27486

26057

F. W. ASSMANN & SÖHNE · LÜDENSCHEID i. W.
UNIFORMKNÖPFE, ABZEICHEN, BESCHLÄGE, KOPPELSCHLÖSSER UND SCHNALLEN

6 a

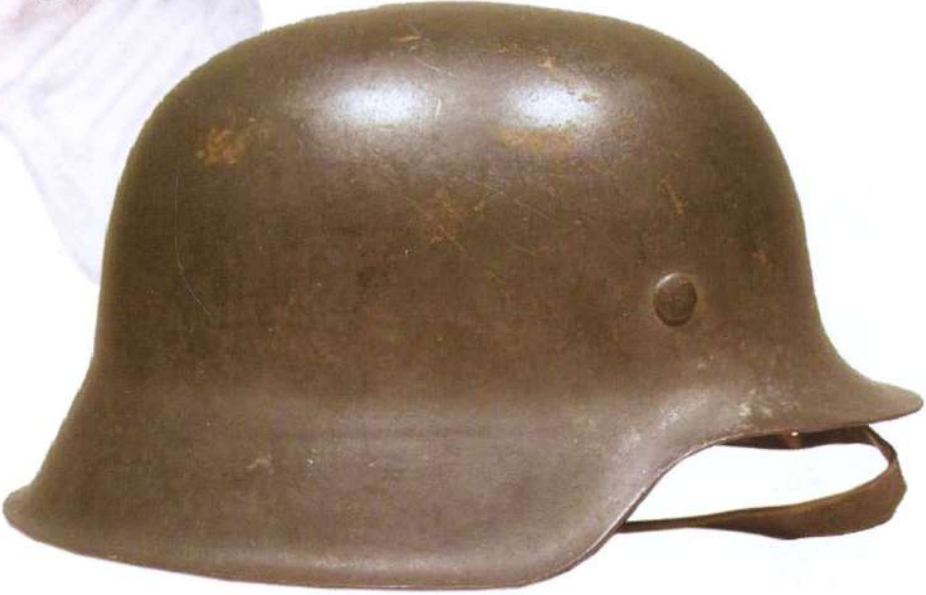
A page from the wartime catalog of F.W. Assman, Ludenscheid, suppliers of various types of stamped metal products including medals, uniform accessories as well as metal components used in the construction of the pith helmet. Details of the top air-vent and sweatband retaining hardware are seen at the bottom.

Appendix

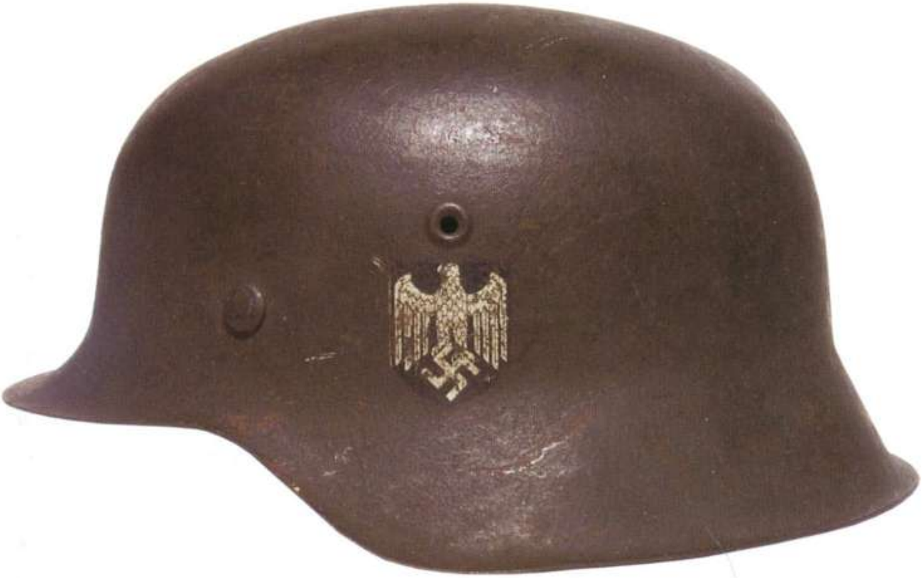
1.

Oddities

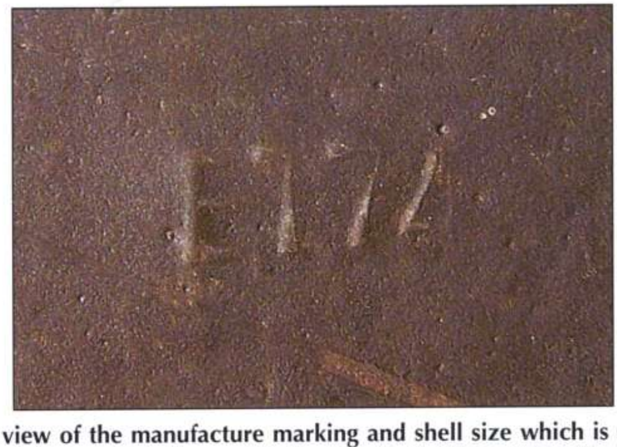
Within the vast array of German helmets surviving in collections today, there is found a significant number of anomalies; helmets which possess non-standard components or have themselves been produced differently either by chance or design. Between the years 1935 and 1945 the number of military helmets produced by order of the Third Reich certainly amounts to more than twenty million. It is not surprising that a number of irregularities are encountered either in production or by subsequent modification.



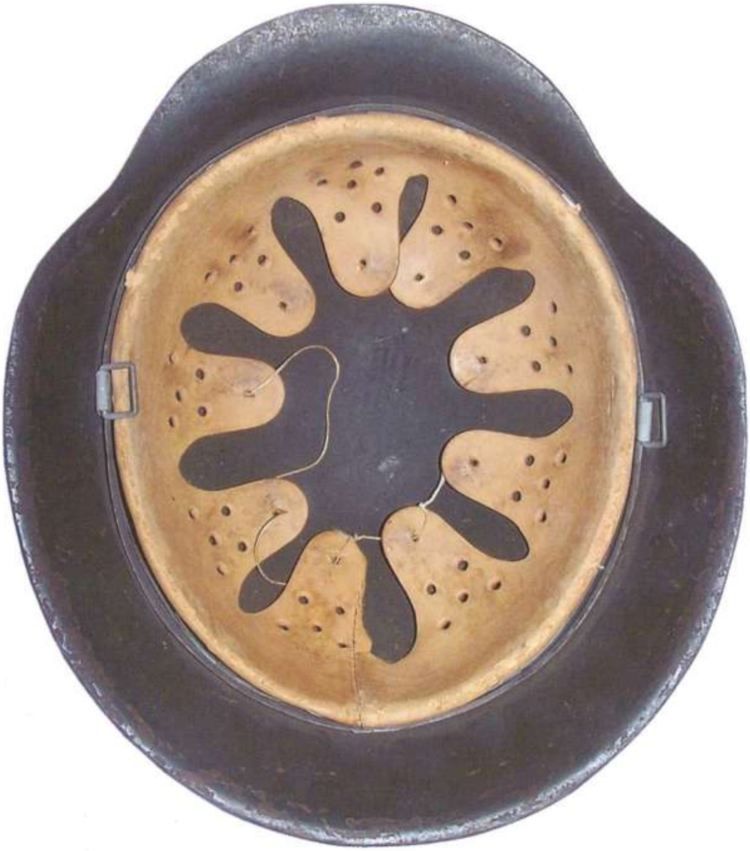
This M42 helmet is maker/size marked Ckl66. It is interesting to note that the helmet shell was produced with no vent holes at the sides. The reason for this "ventless" feature is unknown. It is possible that this helmet is a prototype for a further modification which was being contemplated or could simply be an example of a factory flaw. It is certain that the "ventless" feature was not adopted exclusively for subsequent production due to the fact that this helmet has a steel lot number of 4382, which is over 2000 short of the highest lot numbers observed in Ckl produced helmets. Subsequently Ckl helmets with lot numbers higher than 4382 continue to have ridged vents at the sides. (Courtesy B. Ice)



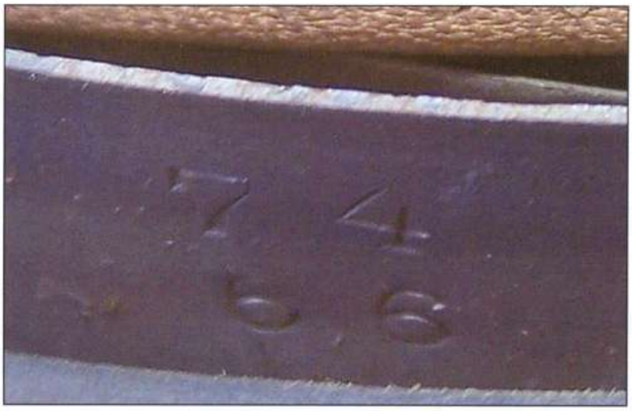
A Model 42 helmet produced in shell size 74. Major military contracts called for helmets to be produced in shell sizes 60 to 70 with corresponding liner sizes ranging from 52 to 63 centimeters. Helmets with shell sizes 60 to 68 are found which bear maker markings of all five factories. Helmets which are shell size 70 are invariably ET products, indicating that the Eisenhutten plant was the only manufacturer to possess the necessary dies for production of the limited numbers of extreme large-sized helmets. In certain cases, a soldier with a head size larger than that which was normally available would be encountered and the proper sized helmet would be procured from ET. There are several known examples of helmets which were produced by ET in a shell size 72 (to accommodate a liner sized 64 or 65). The above helmet is the only known specimen of a shell size 74. The height of this helmet is the same as found in all helmet sizes. Only the circumference is different. Note the distorted shape of the shell due to the irregular dimensions.



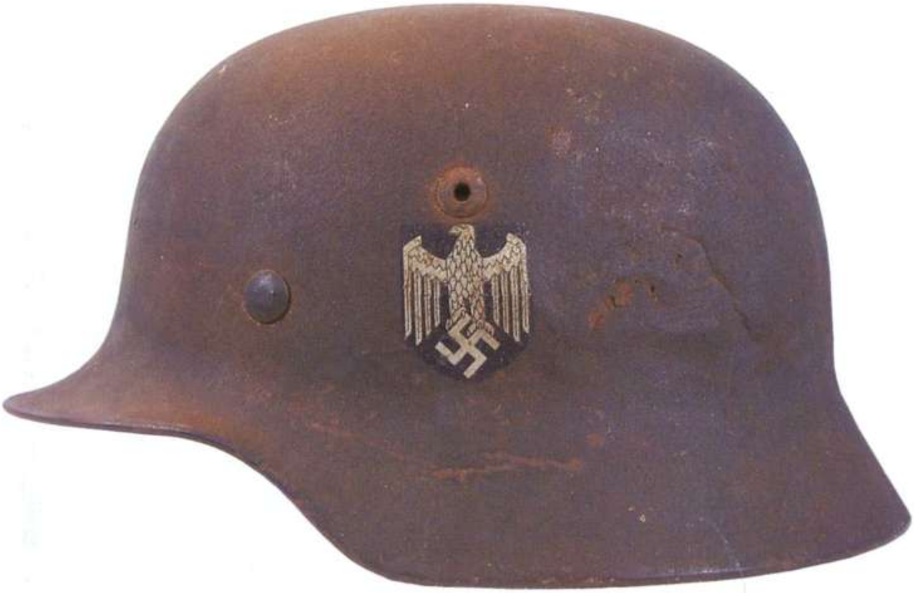
A close-up view of the manufacture marking and shell size which is stamped at the wearer's left. As stated above, all helmet shells that have been observed which are size 70 and larger are marked as having been produced by Eisenhutten/Thale and it is assumed that ET received all special orders for non-standard size helmets.



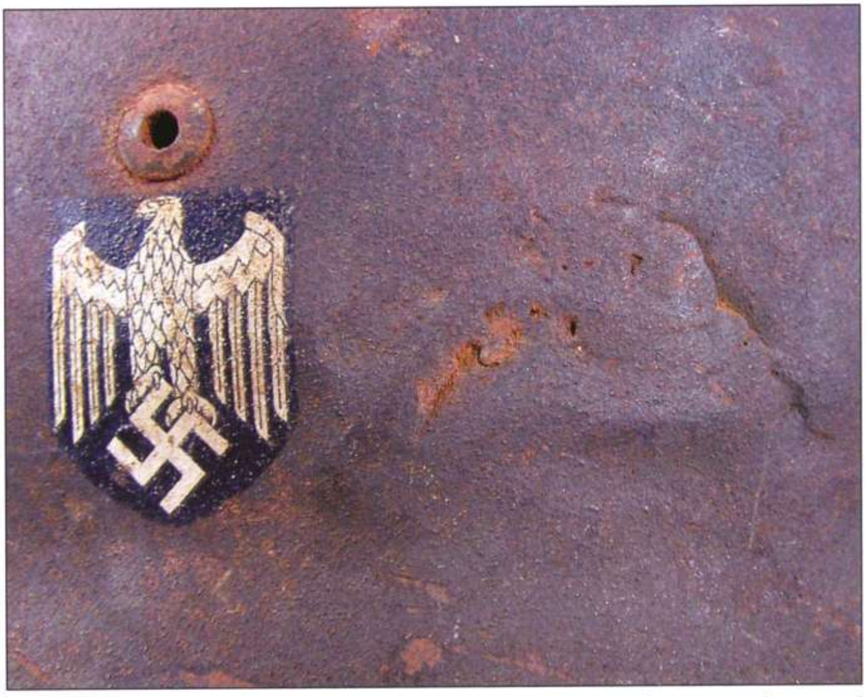
The massive 66cm liner has been cut from a single piece of leather and has nine full "fingers." Note that there is no ink-stamp on the rear portion as is normally found. It is theorized that the liner manufacturer did not have a special stamp made to mark the small amount of liners which would be ordered in this size.



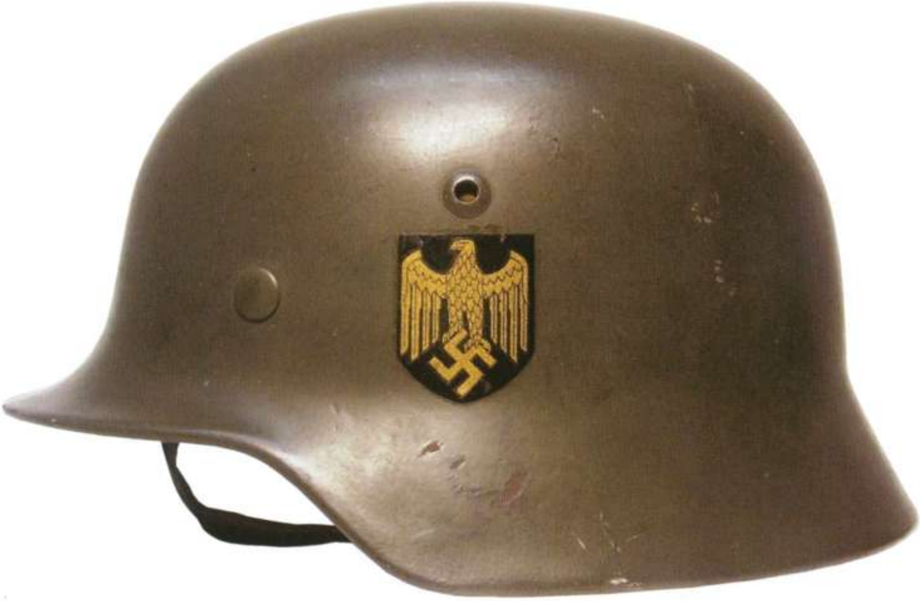
A close-up of the size markings located on the outside of the zinc-steel liner frame. Note that the numbers are individually stamped rather than the single die stamp indicating (shell size) N.a. (liner size). Like the leather liner size ink-stamp, the manufacturer apparently did not produce such a stamp due to the small number of liners which would be required in this specific size.



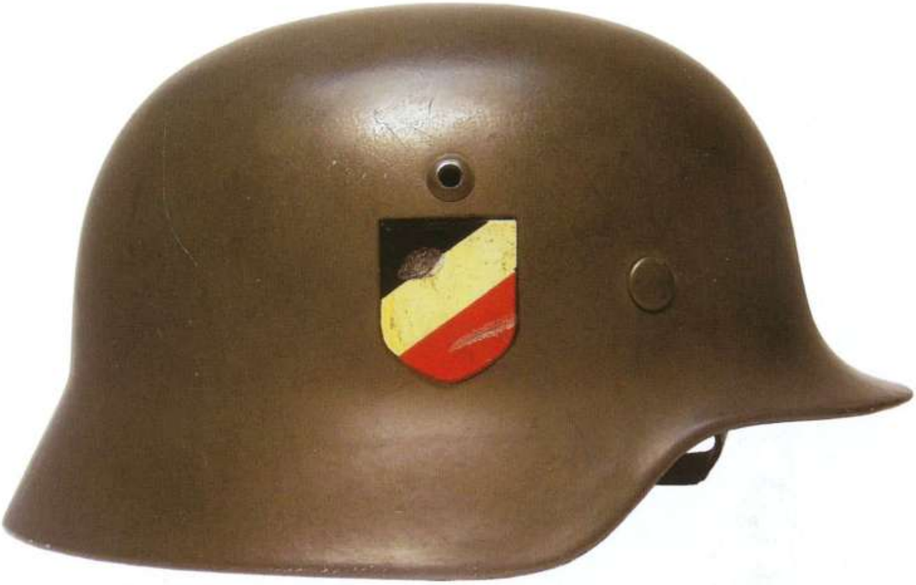
This Model 35 helmet shows evidence of being welded in order to repair what had obviously been a dramatic fissure caused by a severe blow to the rear left side. (Courtesy R. Richter)



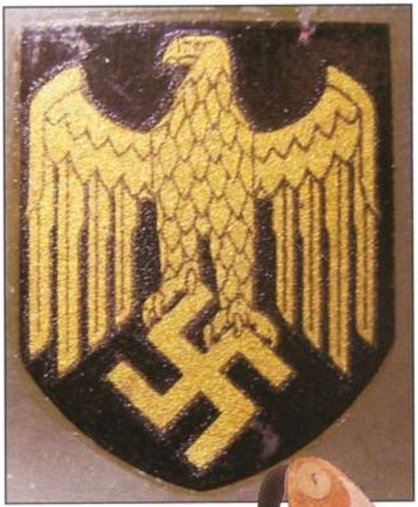
This photograph illustrates a detail of the affected area. Perhaps as testimony of lengths to which the German military would go in order to reclaim damaged equipment, the helmet was repainted, redecorated with a single C.A. Pocher *Heer* decal and reissued with a wartime steel-framed liner. (Courtesy R. Richter)



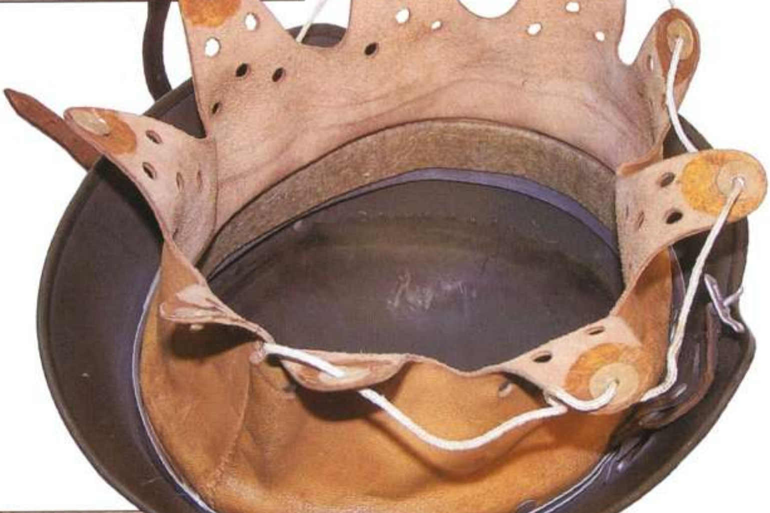
"ET-66" M-35 *Kriegsmarine* helmet. This helmet has a 1939 dated liner and chinstrap. (K. Kithier collection)



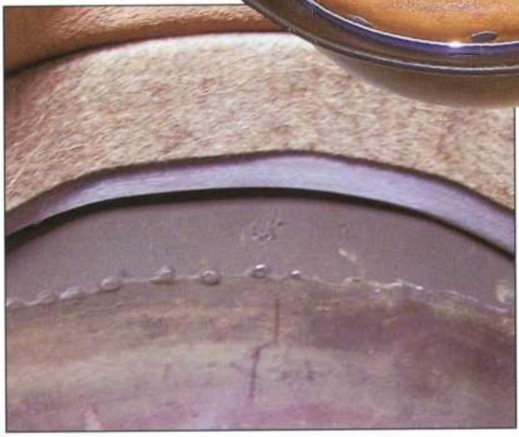
A view of the right side. Closely viewing the national color decal, no trace of an underlying decal is seen.



A close-up of the decal found on the ET-66 *Kriegsmarine* helmet shows evidence of another decal underneath. Notice the small chip at the upper right through which a red backed decal with black border is seen. This underlying decal can only be the Party shield which is normally found on the wearer's right side of factory issued *Waffen-SS* helmets. (Courtesy K. Kithier)



Examination of the inside dome of this ET-66 *Kriegsmarine* helmet shows a strange modification has been made. The dome of another helmet (that of a size 64 shell) has been torch-cut and welded into the dome of this helmet, probably to enhance the protection afforded the wearer. (Courtesy K. Kithier)



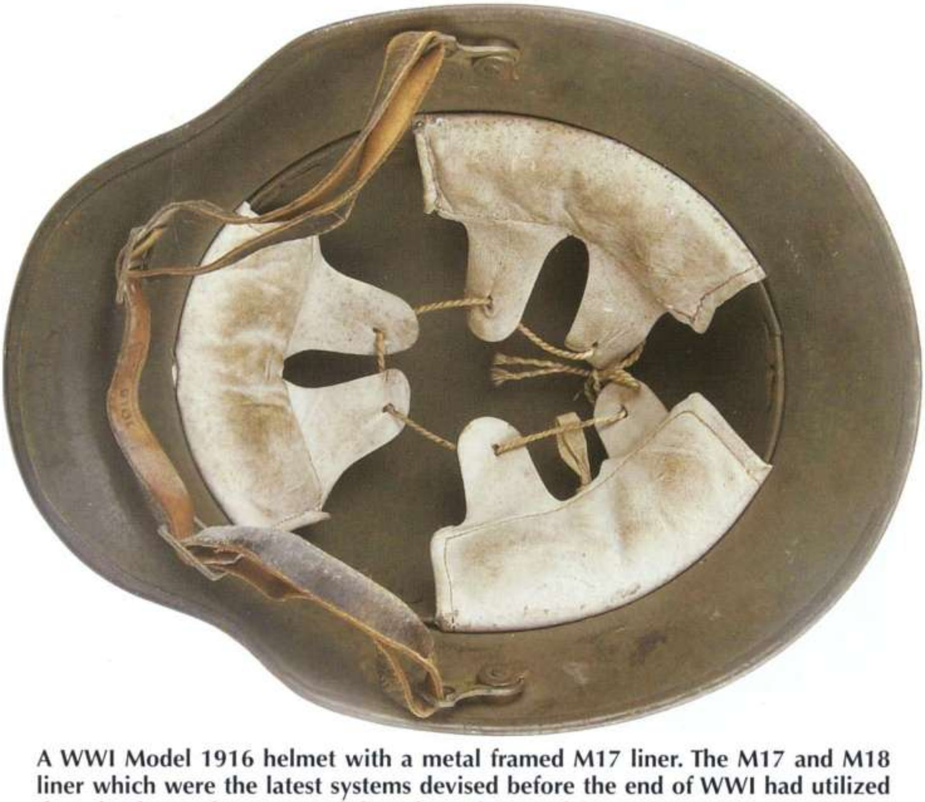
Detail of the weld line of the inner dome reinforcement. Apparently, the welding process did not affect the painted surface of the exterior of the helmet or that exterior was re-painted. (Courtesy K. Kithier)

Appendix

2.

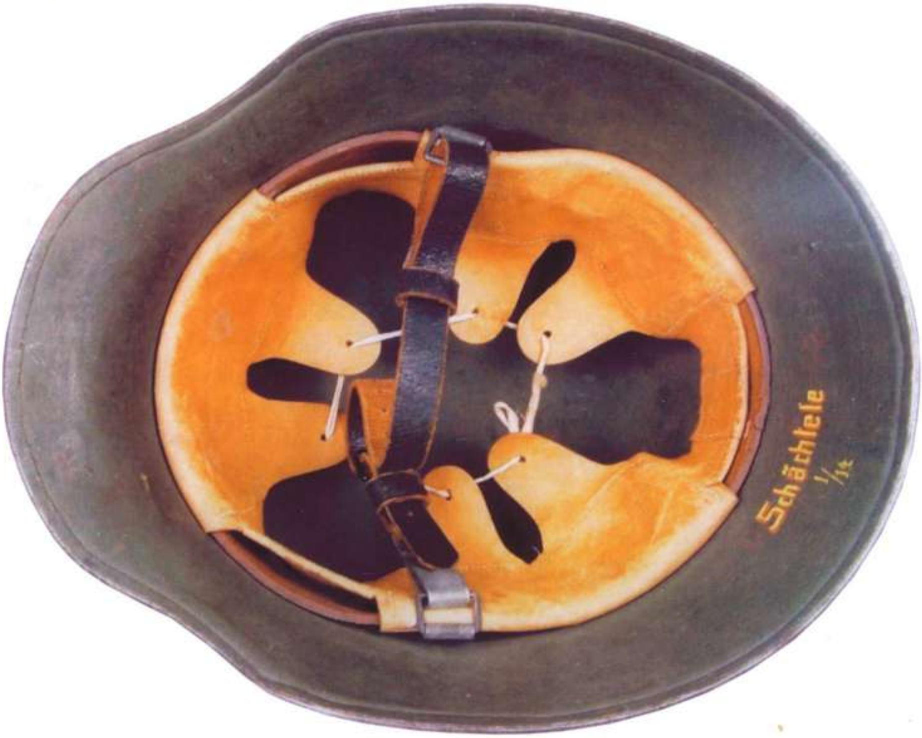
Liners

The liner which would be used in all M35 series combat helmets produced for the Third Reich was developed and patented by Schuberth-Werk G.m.b.H. in Braunschweig. The liner system was designed as a calfskin leather headliner which was die cut with eight or nine "fingers" (depending upon the liner size), each with a hole at the tip through which a drawstring was placed to adjust for depth of the liner bowl. This leather liner was attached to a metal band which was connected by spring suspension bands to a round aluminum frame through which three holes were punched to allow attachment of the liner system to the helmet shell by use of split-pins. This liner system was adopted by the military and designated

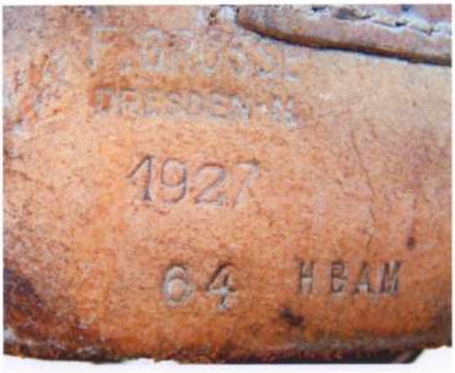


A WWI Model 1916 helmet with a metal framed M17 liner. The M17 and M18 liner which were the latest systems devised before the end of WWI had utilized three leather pads connected directly to the metal frame.

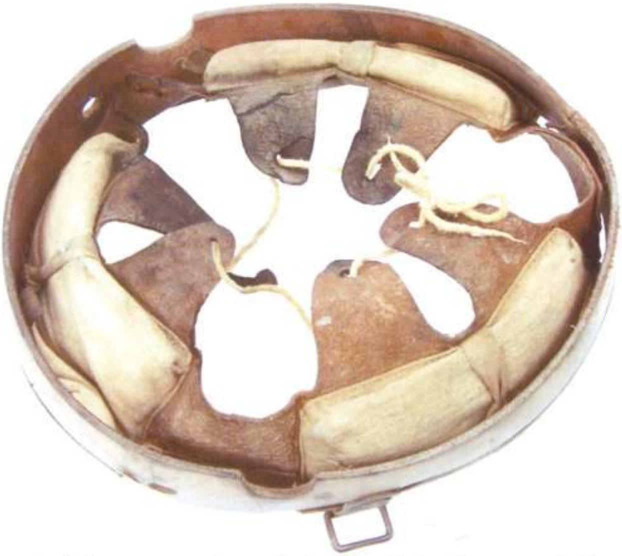
the Model 31. Schuberth-Werk G.m.b.H was the sole manufacturer of this liner and the first deliveries were accepted in 1931. This new aluminum framed liner was used in the modification of existing stocks of WWI era helmet shells still in use by the *Reichswehr*. It was an improvement over the WWI and inter-war era liner systems both for durability and wearer comfort.



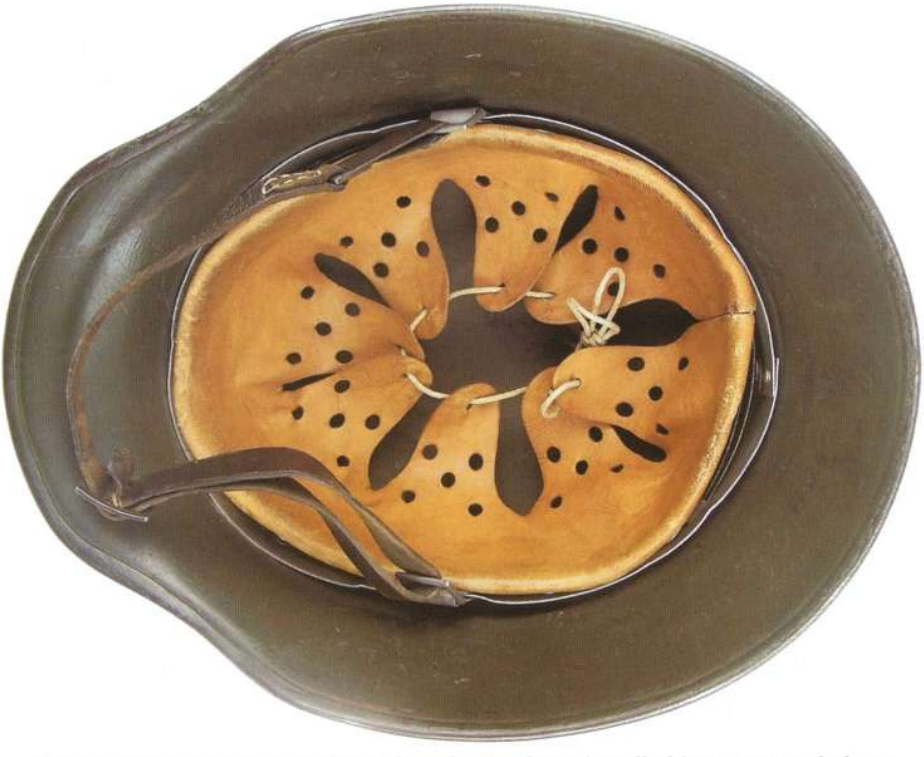
This photo shows the interior of an M18 helmet which has been re-furbished during the latter years of the Weimar Republic. The liner is a new model designed during the 1920s. Although not known to have an official designation, examples are seen which bear manufacture dates from 1925 to 1932. The three pads are cut from a single strip of leather and attached to the thick leather outer frame. The steel wire chinstrap bales are affixed by a sheet metal holder which is riveted to the leather outer frame. Liners such as this are occasionally found installed into refurbished WWI helmet shells as late as 1934-35.



The 1927 dated maker mark of F. Grosse, Dresden is stamped into the exterior of the outer leather frame, as is the shell size for which the liner was intended. The leatherware factory of F. Grosse supplied pistol holsters and other leather items for the German military in both world wars and in between. The "H.B.A.M." is a Weimar era army acceptance office stamp.



The Weimar period liner as seen from the inside. Note the sewn cloth pockets for holding pillow inserts such as is found on the earlier M16-M18 type liners.



The new Model 31 liner is shown here having been installed into an M18 helmet shell which was re-worked according to M35 specifications. The leather liner is formed into a bowl-like shape more closely fitting the wearer's head. This liner system attaches indirectly to the outer frame by means of an inner band to which the leather is riveted.

When the Model 35 helmet was adopted in the summer of 1935, the Schuberth-Werk liner was incorporated as the accepted liner system and production was begun for mass distribution. Initially Schuberth-Werk G.m.b.H. was the sole producer of the M31 liner. It soon became evident that many helmets would be ordered by the military procurement offices, so further contracts were made for the M31 liner to be produced by other manufacturers. (It is interesting to note that the Schuberth factory continues in the 21st century as a manufacturer of protective helmets for use by motorcyclists.)

The manufacturer's name and date of production is found stamped into the side of the outer aluminum frame at wearer's right. The first M31 liners are found with the maker mark "Schuberth-Werk A.G, Braunschweig, 1931." No different date is found on the liner until 1935, i.e., there has never been an M31 liner observed bearing a date of 1932-1934. It is possible that Schuberth-Werk produced a large run of the M31 liner in 1931 which sufficiently met the needs of the Army until 1935, or that production continued but the date found on the maker stamp was not changed until 1935.

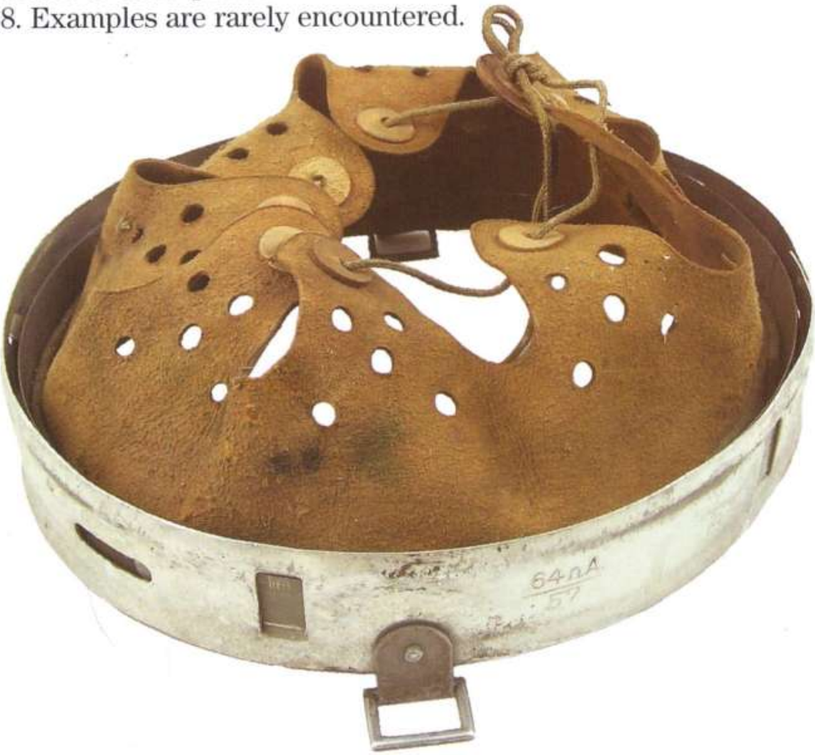
Liners were produced in seven different sizes to accommodate the seven sizes of general contracted helmets which measured 60 – 70cm in inner circumference. (Larger sized helmets with corresponding larger sized liners were produced by special order when needed.) The size was stamped into the aluminum frame on the side opposite from the maker mark (wearer's left). Although each helmet shell size accommodated one of two different liner sizes, this was not indicated in the size markings found on the earliest liner frames. Only the shell size was indicated. Later in 1936 it became standard practice to indicate both shell size and liner size on each liner frame. After this time, the size became indicated by shell size followed by the letters "n.A." (*neue Art* or literally "new model") and the precise liner size which was installed within the frame.

It is important to note that the date/year found on the frame of the liner is not necessarily the date/year of the assembly of the helmet. In the case of Model 35 helmets produced before the war, many examples are observed where the acceptance stamp found inside the dome of the helmet shell shows a year which differs from the year found on the liner manufacture marking. Normally that difference is one year before or after. In most cases, where the year is not the same, it is found that the helmet shell itself is dated earlier than the liner, usually by only one year. In the case of post-1940 helmets, the difference may be two years or more. A great many Model 42 helmets are found with 1940 dated liners even though the assembly of the helmet appears to have been in 1942 or later. This would indicate that stocks of liner assemblies were held by the manufacturers for a significant period of time, possibly due to over-production.

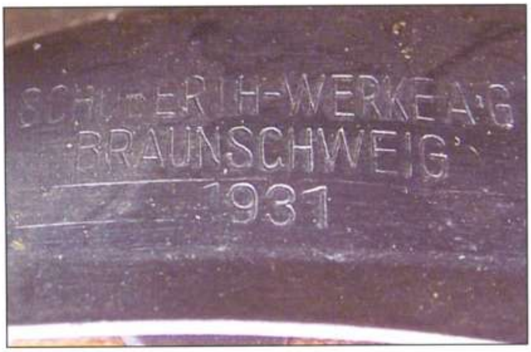
In *"The History of the German Steel Helmet 1916-1945,"* Ludwig Baer lists the following manufacturers of the M31 liner:

- Schuberth-werke, Braunschweig
- Biedermann & Czarnikow, Berlin/Litzmannstadt
- F.W Muller Jr., Berlin
- Werner Zahn, Berlin
- Karl Heisler, Berlin

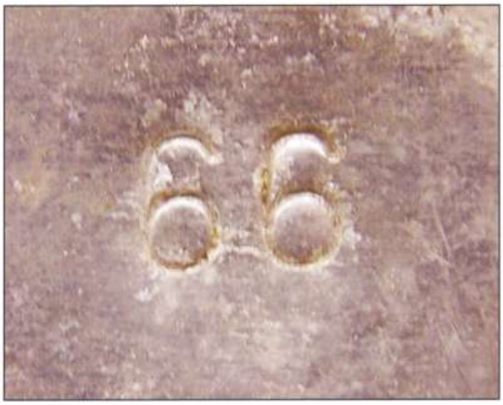
There is at least one liner manufacturer which has not been here-to-fore documented; the Max Densow leather works of Berlin is known to have produced aluminum-framed liners from 1936 to 1938. Examples are rarely encountered.



A Model 31 liner as installed into factory produced and depot refurbished Third Reich era helmets. This example is the early model with a non-reinforced aluminum frame.

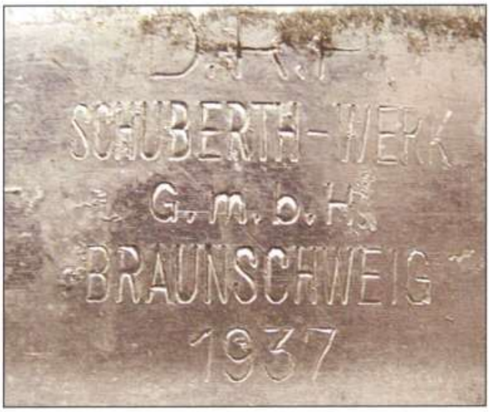


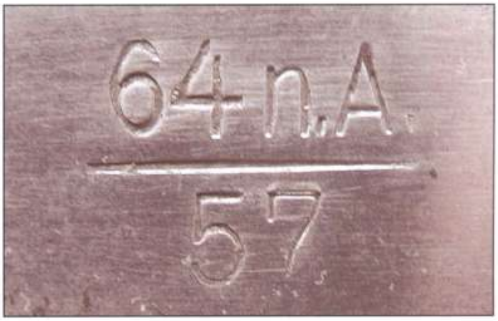
Manufacturer marking of Schuberth-Werk A.G. dated 1931. The A.G. refers to *Aktiengesellschaft* or "incorporated"



The stamp found on the wearer's right side of liners dated 1935-36 indicates the shell size only.

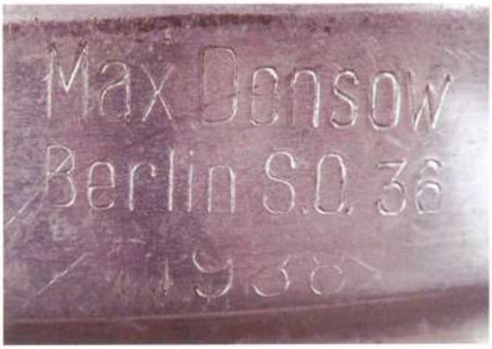
Beginning in late 1935, other companies were issued contracts to supply liners for the growing number of helmets ordered by the High Command. The letters D.R.P. *(Deutsche Reichs Patent)* were added to the Schubeth-Werk marking in order to designate this company as the patent holder for the M31 liner. The legal status of Schuberth-Werk changed to add the suffix G.m.b.H. (*Gesellschaft mit beschrankter Haftung* which translates to the English "limited partnership" or Ltd.)

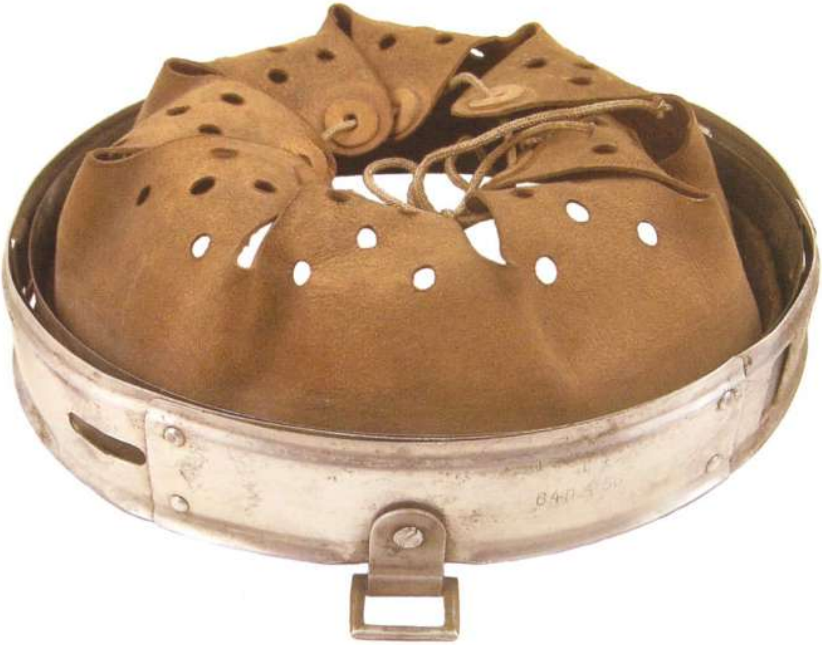




In 1936 or '37 the letters "n.A." were added along with the actual liner size. This was to indicate the liner as the *"neue Art"* or "new model."

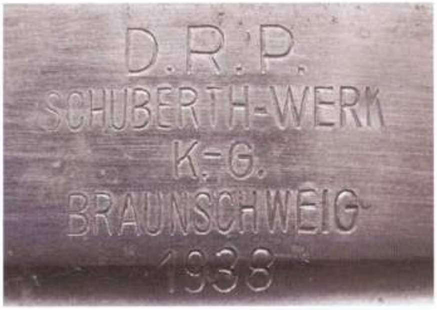
The markings found on a liner manufactured by the Max Densow Kofferfabrik of Berlin. Liners produced by this maker are found dated 1936 to 1938. For unknown reasons, the Densow firm stopped production in 1938.

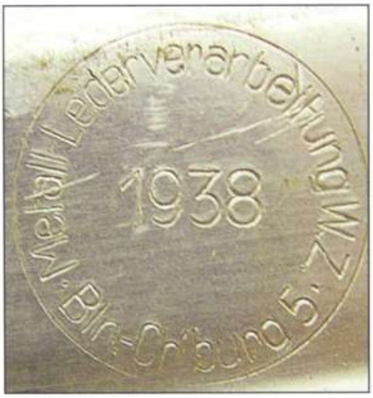


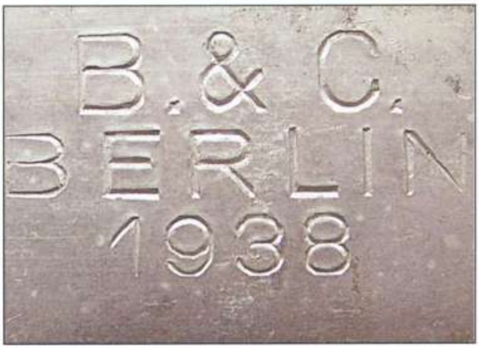


The aluminum M31 liner suffered from problems of integral weakness due to the softness of the metal. In order to strengthen the frame of the liner it was re-designed in 1937 and re-enforcement strips were added to the right and left sides. As seen above, each of these strips was attached to the liner frame by four aluminum rivets.

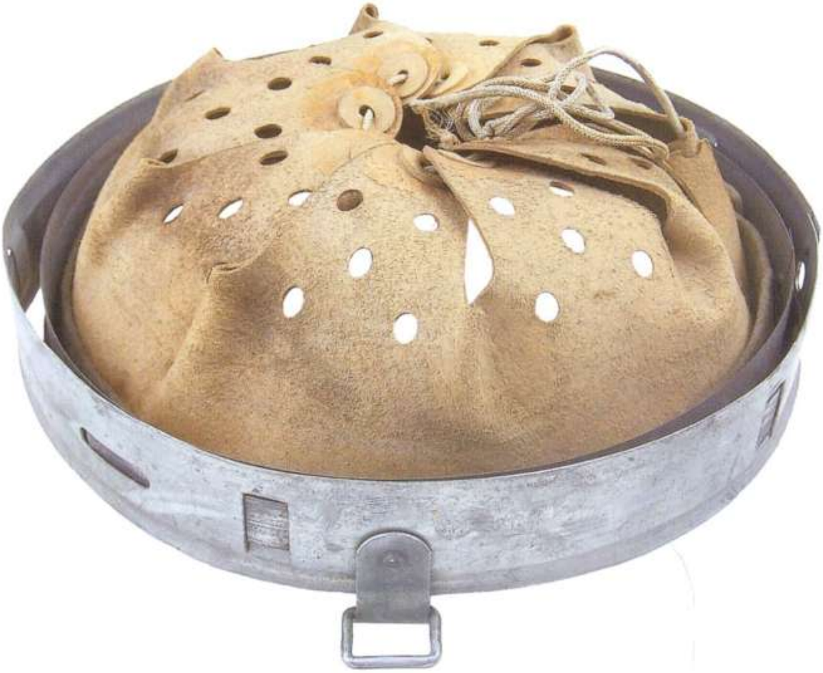
In 1938 the Schuberth firm again changed its legal status by adding the suffix K.-G. The K.-G. means *"Kommanditgesellschaft"* which is equivalent to the English "Limited" or Ltd.



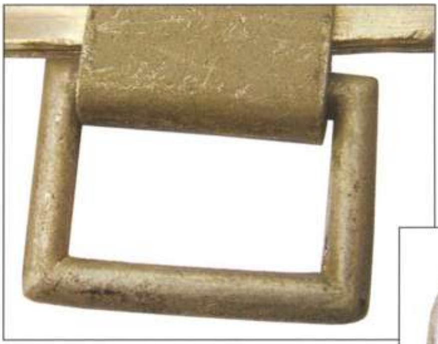




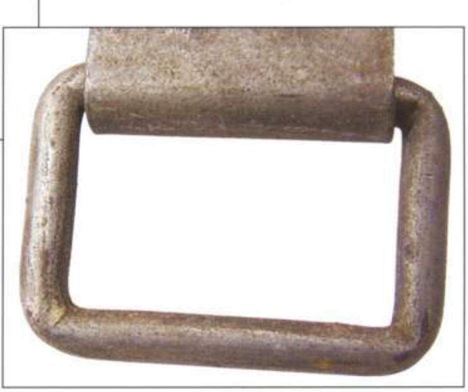
After the initial contracts of 1935, other manufacturers joined in the production of M31 liners to fill ever increasing orders. Above left: F.W Muller Jr., Berlin/Charlottenburg. Above right: Biedermann & Czarnikow, Berlin.



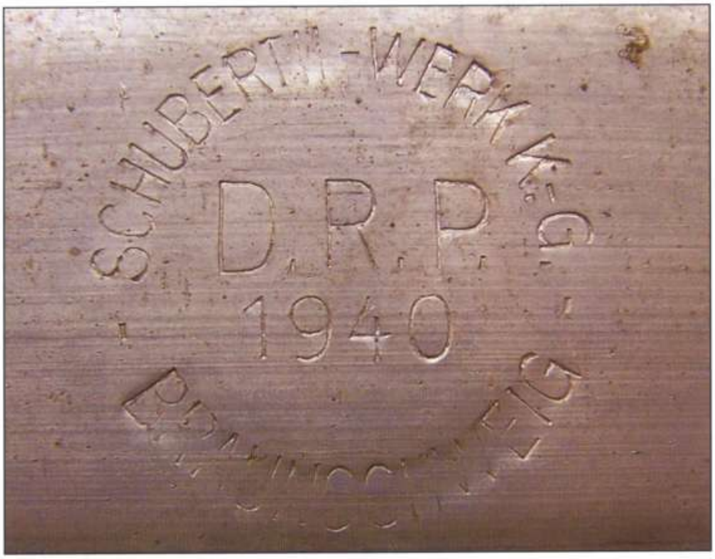
In 1940, the M31 liner frame was redesigned as a non-reinforced band constructed of zinc-plated steel. The reason may have been that aluminum was designated as a strategic material and was needed for other types of war production. In any case, the steel-framed liner proved superior in ruggedness and durability in field usage. The cast aluminum rectangular chinstrap bale was replaced by a steel wire type. The vast majority of post-1940 liners are found to be of this pattern. However, there are aluminum reinforced models produced by two different manufacturers that bear dates of 1941 and 1943.



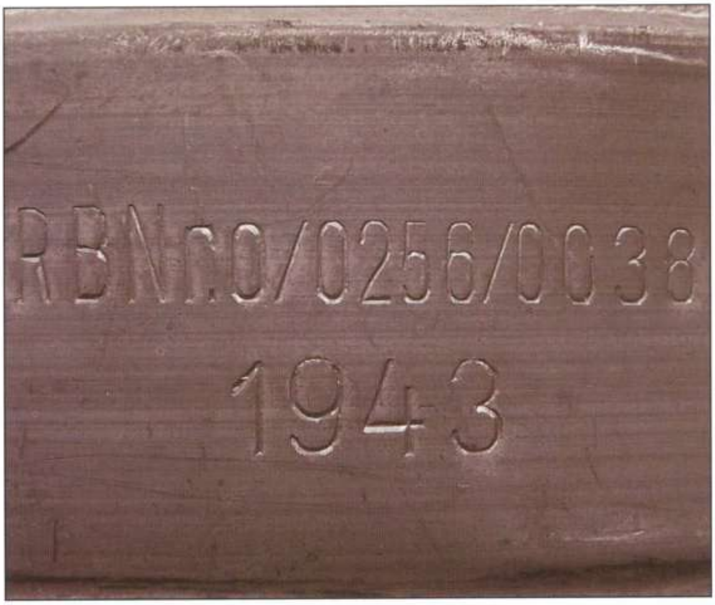
A close-up of the pre-1940 cast aluminum chinstrap bale with chamfered corners.



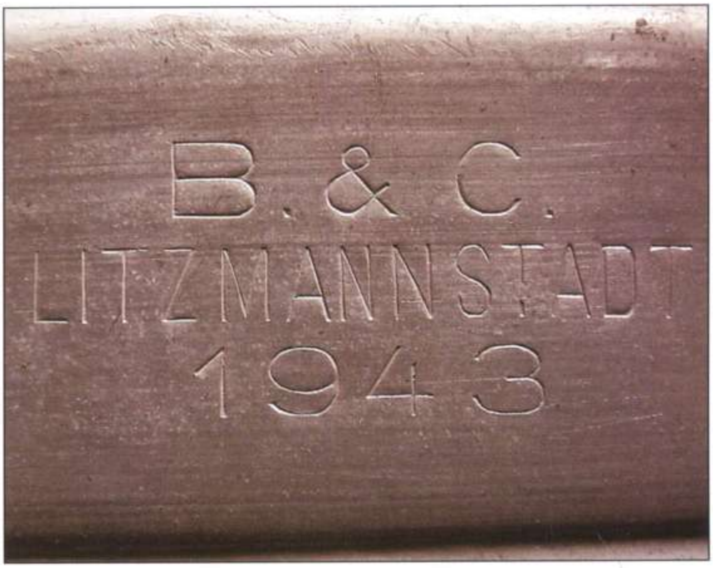
This chinstrap bale found is on wartime steel framed liners. Basically, it is a bent wire rectangle.



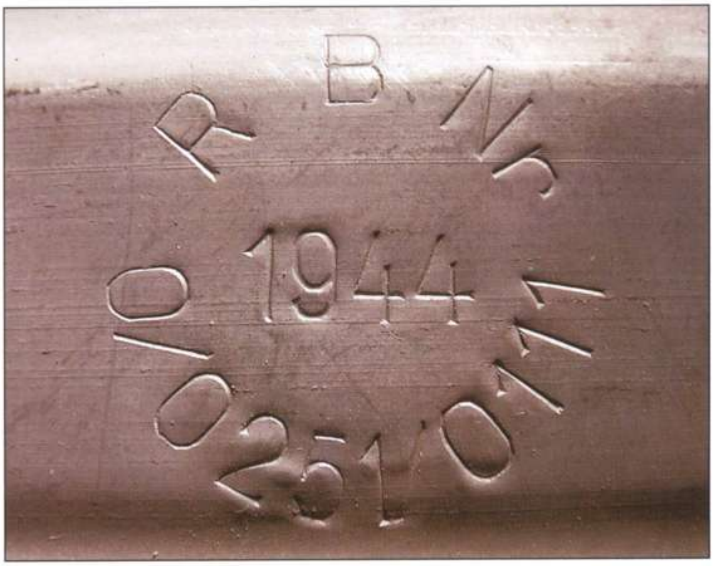
This is a maker mark found on the zinc-steel liner frame introduced in 1940.



In 1942 the method of applying company names and locations to military contracted products began to fall out of practice. The theory was that doing so would prevent allied intelligence from detecting specific targets for destruction from the air. However, in order to be held accountable for quality control, manufacturers continued to be required to identify their products and so the RB numbering system was set in place. The RB number (*Reichsbetriebsnummer* - "Government contractor" number) was a code assigned to each military contract submitted for the production of war material.



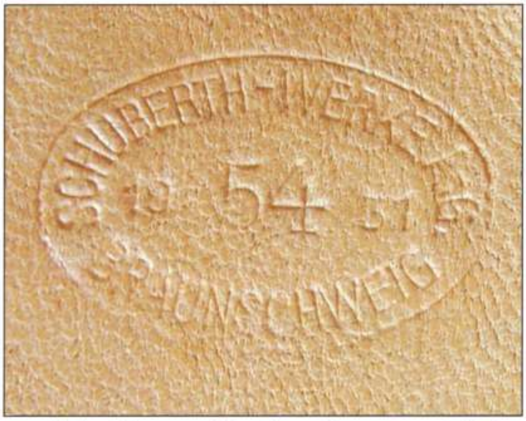
This is a maker mark found on a liner produced by Biedermann & Czarnikow leather works, formerly of Berlin. After 1941 the B&C Company joined the mass movement of private industries from Germany proper to the occupied eastern territories in order to place their factories within proximity to sources of cheap labor. In the case of the B&C firm, relocation was made to the city of Lodz, Poland (re-named by the Germans *Litzmannstadt* after the German General Karl Litzmann who captured the city during WWI). Lodz was a favorite location for German industrialists as it contained the second largest ghetto in occupied Poland and provided an almost inexhaustible source of workers who could be obtained as slave labor through the Reich Economics Office administrated by the SS.



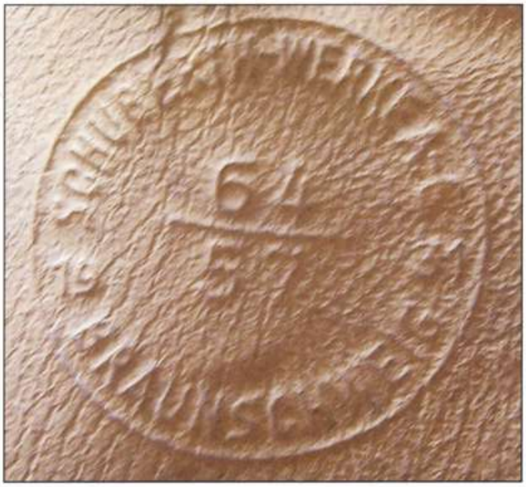
One of the latest observed helmet liner marking. The RB number is that assigned to the manufacturer Werner Zahn, Berlin. Helmet liners that bear a 1945 production date are almost unheard of.

Liner Size Markings

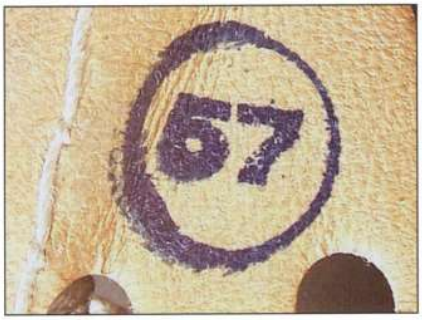
In the first years of production the liner size was indicated by a die-stamped marking applied directly to the leather of the liner. Later, it became apparent that the mark had a high probability of becoming illegible due to wear of the leather surface. By 1937 this size marking had been changed to an indelible ink stamp applied to one of the rear "fingers." The size and style of the font used in these size markings often varied by maker. Normally, it is possible to identify the manufacturer of a liner by looking at the size ink-stamp.



A die-stamped size/date marking found in a 1931 Schuberth liner.

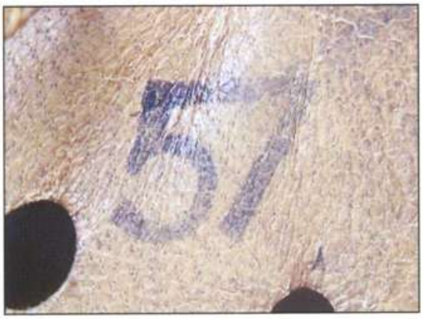


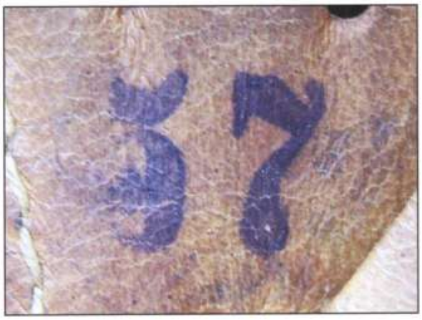
The die-stamped size/date marking found in Schuberth liners of 1935-36 production. The shape of the stamp has been changed from an oval to a circle. It is not known exactly why the stamp continues to bear a 1931 date even on liners which have been assembled in 1936. The practice of die-stamping the size marking was short-lived as it was found that the markings soon became obliterated by wear. After 1936, ink stamps were used.



By late 1936 Schuberth liners were marked by ink-stamp with the liner size contained in a circle. This remained the style of size markings applied by the Schuberth factory until the end of production.

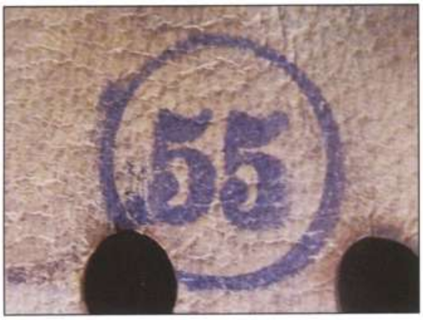
This non-circled size marking is typical of those found in pre-1940 liners produced by Metal Lederverarbeitung W.Z. (Werner Zahn, Berlin).

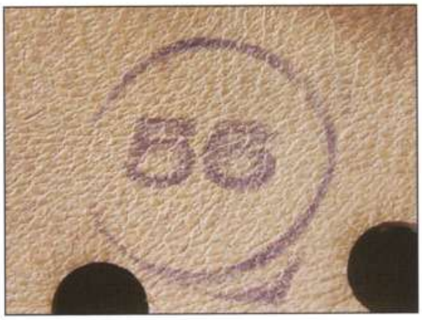




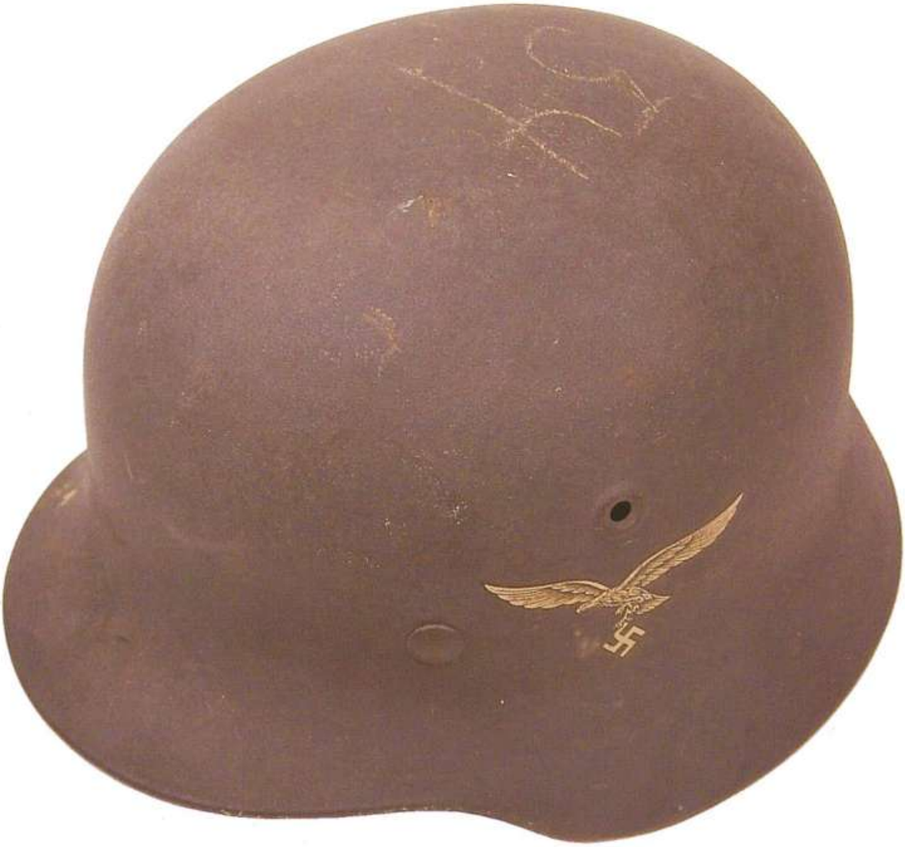
The B&C firm used a large scripted font early in production but after 1941 switched to the smaller circled numbers such as the type used by Schuberth-Werk.

This size marking is found on a 1941 dated liner produced by Metal Lederverarbeitung W.Z. (Werner Zahn, Berlin). Note that the scripted font is used.

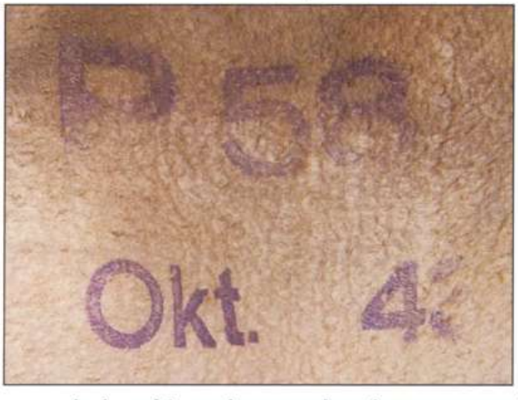




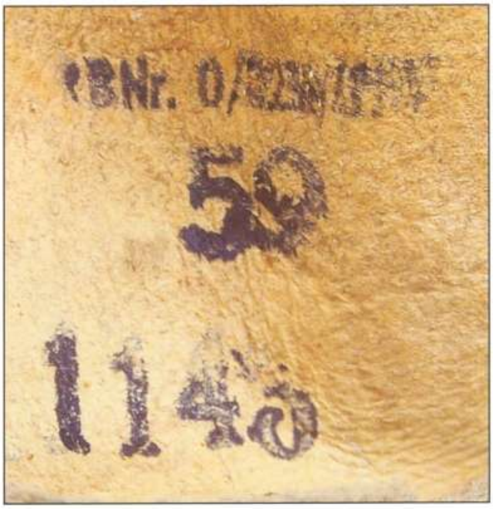
This size marking is a plain font within a circle and is most typically found in late produced liners.



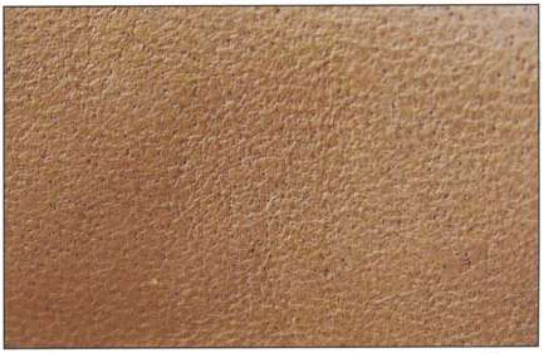
Occasionally, one encounters a helmet in unissued condition as shown above upon which the liner size was written in wax pencil for faster and more convenient size identification during the process of issuing helmets.



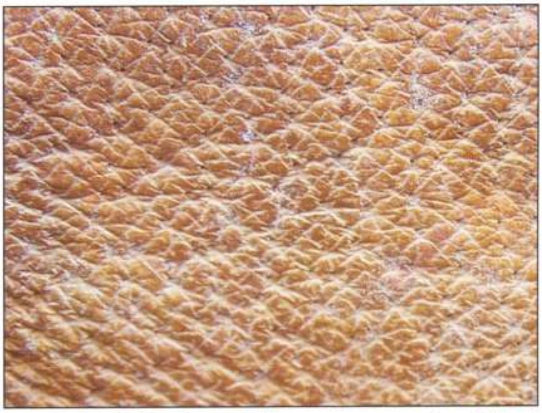
Although less commonly found in early examples, there are a variety of markings seen on the reverse side of wartime liners. Normally there is a number that appears on the leather which is one or two digits higher than the metric size number found on the obverse. It is believed that this is a cutter reference number showing the maximum liner size that may be cut from the leather blank. This example is dated October 1942.



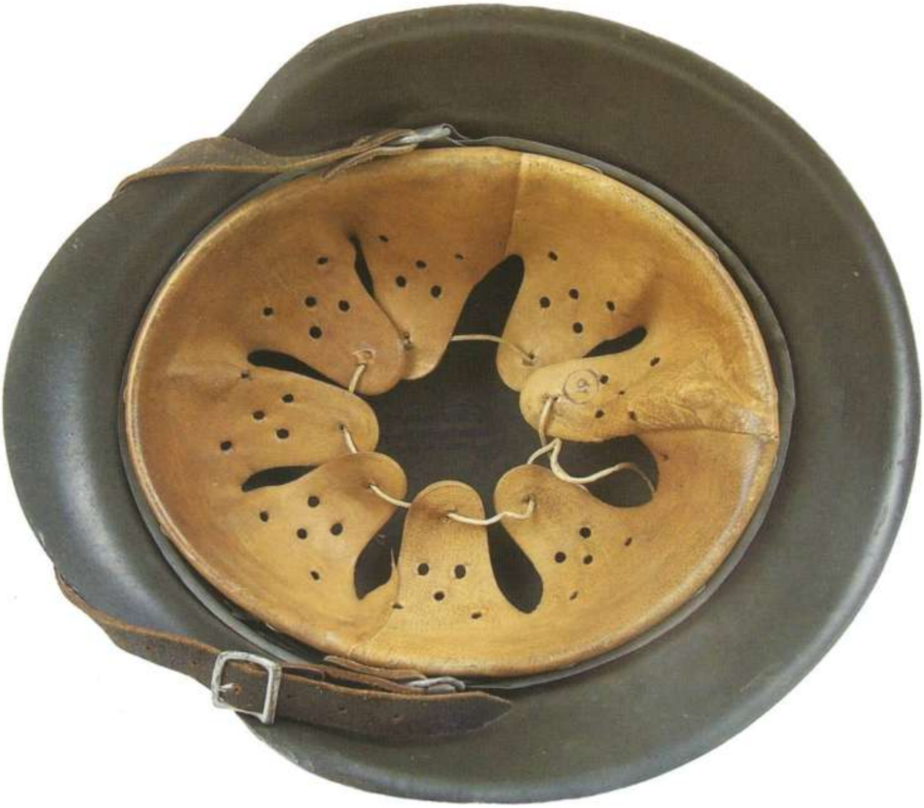
The RB number stamped onto the reverse side of this liner hints that the leather portion may have been subcontracted by another supplier before it was assembled by the liner producer. The date of November 1943 appears as well.



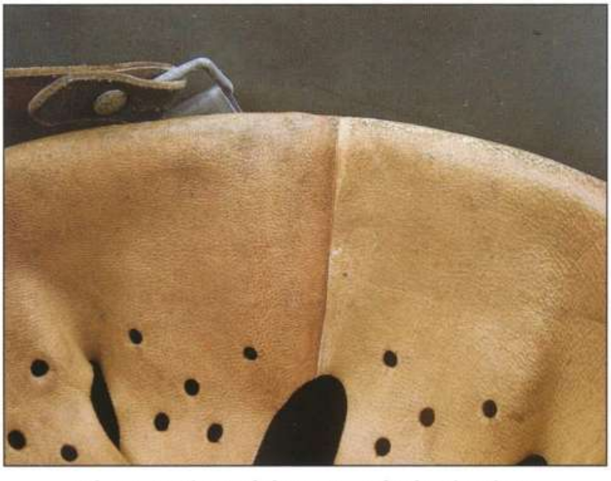
The leather found in early liners is normally of a thin goat or sheep type and typically has been tanned by what is known as the "vegetable process" because the chemicals used are derived from plants. Wartime produced leather liners are of lesser quality, relying more heavily upon the use of faster acting chromium salts. This photo shows the fine grain leather found in a 1938 dated liner.



After 1941 the use of pigskin is observed in many examples. This photo is a magnification and shows the coarse grain of the hide.



Occasionally one finds a liner which is made from two or more separate pieces of leather which have been laminated together. In the case of the above helmet, three pieces of leather were laminated together from scraps or end cuttings from other liners. This was probably done due to the large size of the liner (61cms). Many late war specimens are seen in which even common sized liners were made from separate leather pieces attached to one another. It is assumed that this was done as a materials-saving measure.



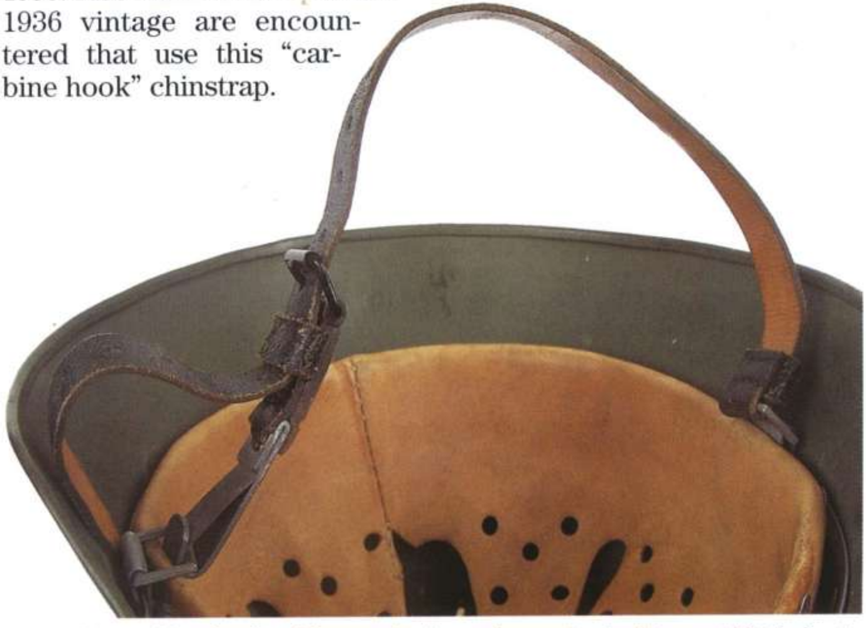
Close-up view of the seam of a lamination.

Appendix

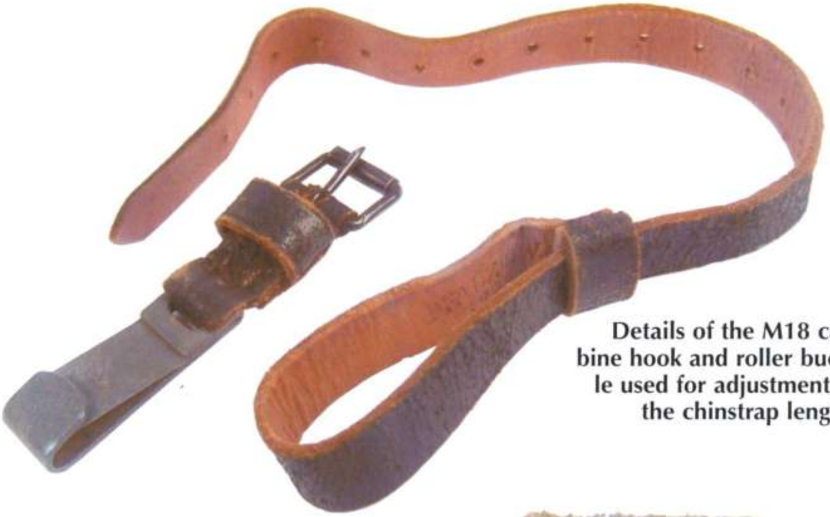
3.

Chinstraps

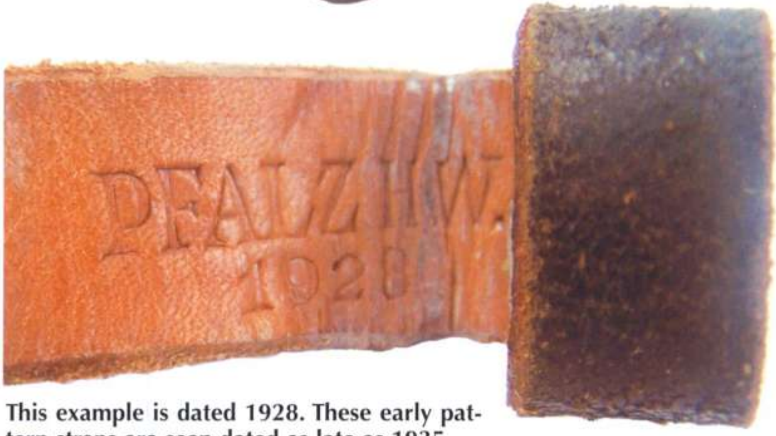
The chinstrap issued with the vast majority of Third Reich era helmets is known as the Model 31. Like the Model 31 liner, its development pre-dated the M35 steel helmet. According to Baer, it was developed in conjunction with the liner and the assembly together was designated the Model 31 liner system. Surviving examples of early helmets tend to show that the two may not have been initially produced in conjunction with each other. The earliest transition helmets have a variety of miscellaneous types of chinstraps. The earliest style called standard is known not by any official nomenclature but rather simply as the "carbine hook" style. This chinstrap was fastened to the liner bale by means of a snap hook on one end and a leather slide buckle on the other. It is adjustable for size at both ends. Examples are seen that date between 1931 and 1935. M35 helmets of 1935 and 1936 vintage are encountered that use this "carbine hook" chinstrap.



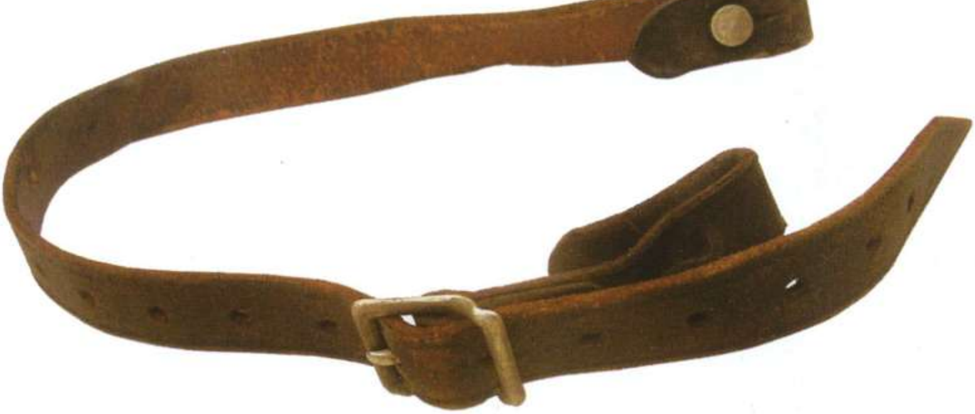
The early "carbine hook" chinstrap is shown here attached to an M35 helmet. Note that it is adjustable for size at both ends and is readily detachable by means of a steel snap-hook at one end. It is found on "transitional period" M16-18 refurbished helmets as well as very early M35 models.



Details of the M18 carbine hook and roller buckle used for adjustment of the chinstrap length.



This example is dated 1928. These early pattern straps are seen dated as late as 1935.



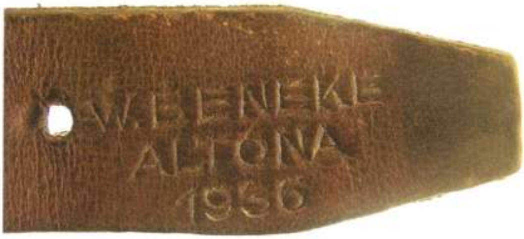
This photo shows an unmounted M31 chinstrap. This was the standard chinstrap used on German steel helmets from 1935 until the end of WWII.

Shortly after the beginning of mass production of the M35 helmet, the M31 chinstrap made its first appearance. The M31 chinstrap continued to be the main style used until production of steel helmets halted in 1945. Its basic style remained unchanged throughout the 10 years that it was used. The main difference between early and late straps is found in the materials used in production. The hardware consisted of a single prong adjustment buckle and two connecting studs, one at each end. This hardware was initially made of aluminum but was changed to steel (either painted or non-painted) around 1940. After 1940, some manufacturers began to produce this chinstrap using pigskin leather rather than steer hide. Initially, chinstraps produced for the *Luftwaffe* were made from brown dyed leather while other branches of service used black dyed leather. By 1940 this practice was stopped and all service branches were using black dyed leather chinstraps.

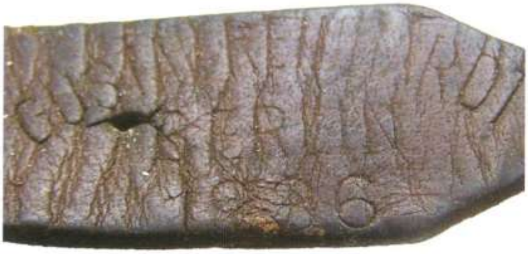
M31 chinstraps are normally seen dated as early as 1936 and on rare occasions as late as 1944. A variety of different manufacturers has been noted but no comprehensive list has ever been compiled.

As with liners, there seems to be no correlation between chinstrap manufacturers and helmet producing factories. Unlike the liner which was a component of the helmet which was factory installed, the chinstrap is an item which in the majority of cases was lacking from the helmet when it left the factory. Helmets and chinstraps arrived at military stores separately. Quite probably the chinstrap was not installed on the helmet until the helmet was ready for direct issue. Examination of original examples often shows a correlation between the maker of a chinstrap and the branch of service, as well as the approximate delivery date. For example: chinstraps manufactured by R. Larsen (Berlin) are commonly found on police/*Feldgendarmerie* helmets of 1938-39 vintage. Examples made by O. Reichel (Bielefeld) are found on *Luftwaffe* helmets dated 1940-42. There seems to be some correlation between the chinstrap maker G. Schiele (Loburg) and helmets issued to the *Kriegsmarine*. Of course there is no documentary evidence to support this correlation but enough examples of helmets which still retain their originally issued chinstraps exist to reinforce the accuracy of this conclusion.

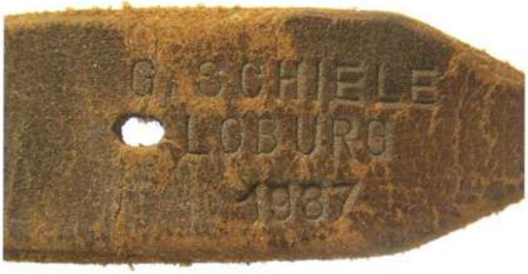
The number of different chinstrap manufacturers appears to be fairly large and as stated above, no comprehensive list has ever been attempted. The photographs in this appendix show a variety of maker markings encountered. Certainly by 1943 the majority of manufacturers converted their maker markings to the RB system in which contract codes replaced the individual maker names.



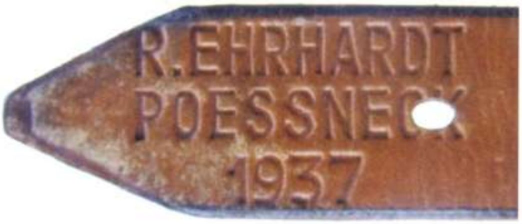
W. Beneke, Altona, 1936



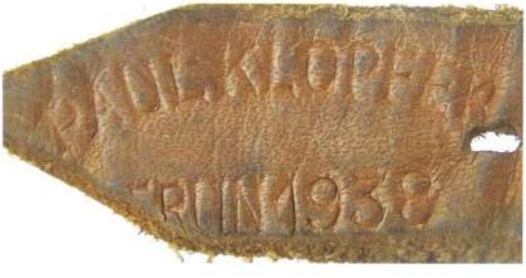
Gustav Reinhardt, Berlin, 1936. - Gustav Reinhardt, Lederwarenfabrik, Brandenburgstr., 72-73, Berlin SW 68



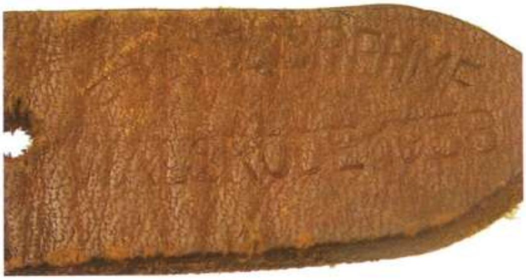
G. Schiele, Loburg, 1937



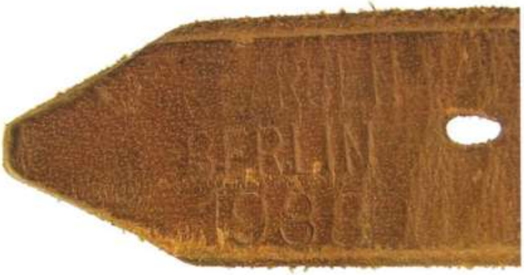
R. Ehrhardt, Poessneck, 1937. This firm was a large producer of pistol holsters during the era of the Third Reich.



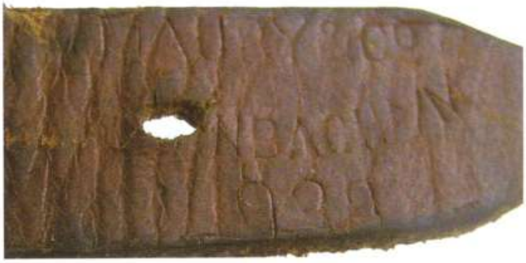
Paul Klopfer, Berlin, 1938



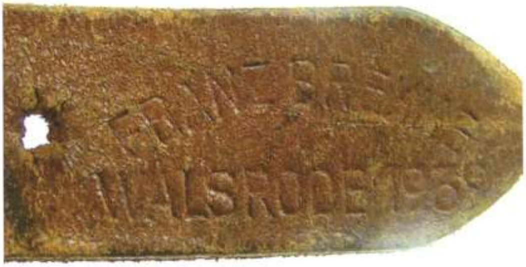
Franz Brehme, Walsrode, 1938. This company has operated in Walsrode, lower Saxony since the early 20th century and is still in the leather business producing a wide line of luggage, wallets and women's handbags.



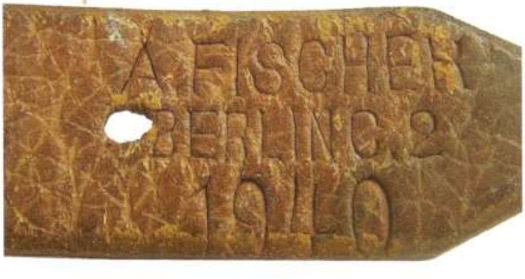
R. Larsen, Berlin, 1938



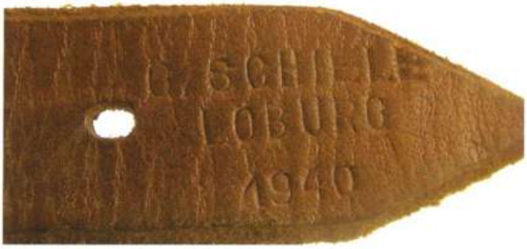
Maury & Co., Offenbach am Main, 1939



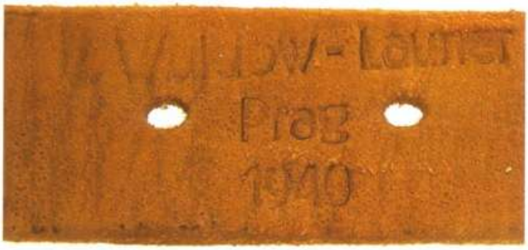
Franz Brehme, Walsrode, 1939



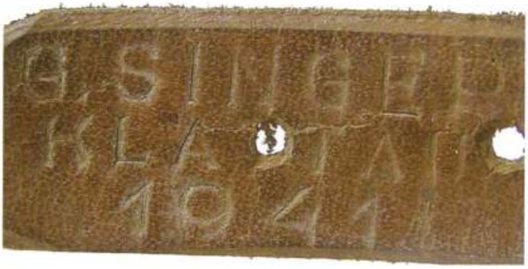
A.Fischer, Berlin C.2, 1940



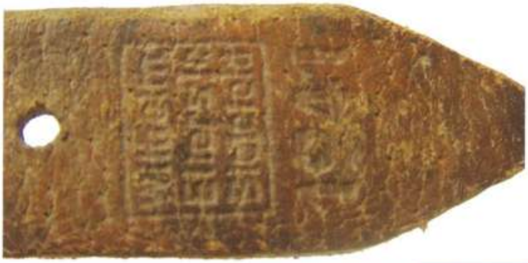
G. Scheile, Loburg, 1940



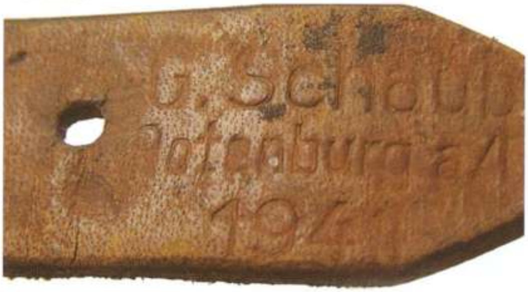
Waldow – Launer, Prag, occupied Czechoslovakia, 1940



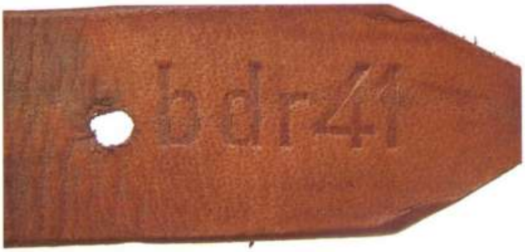
G. Singer, Klattau, (Klatovy, occupied Czechoslovakia) 1941



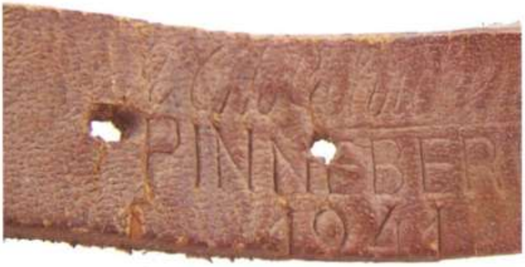
Wilhelm Ellers, Bielefeld, 1941. This chinstrap is commonly found on *Luftwaffe* helmets.



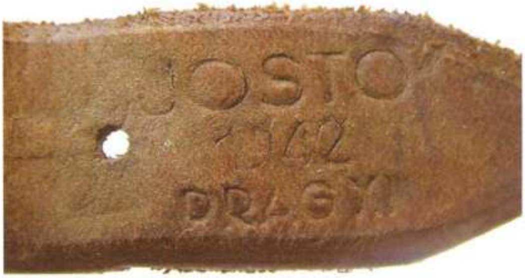
G. Schaub, Rotenburg am Elbe, 1941. The G. Schraub firm is one of the German companies participating (as of July, 2000) in a "forced/slave labor compensation fund" with the objective of lending assistance to former forced laborers and others who suffered particular hardships at the hands of the Nazi regime and are still alive today.



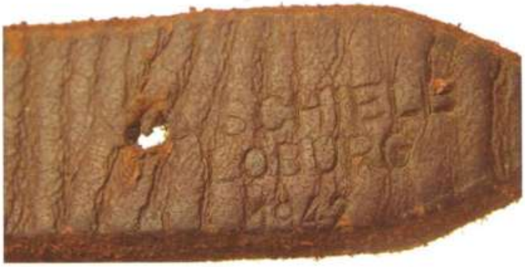
Bdr 41



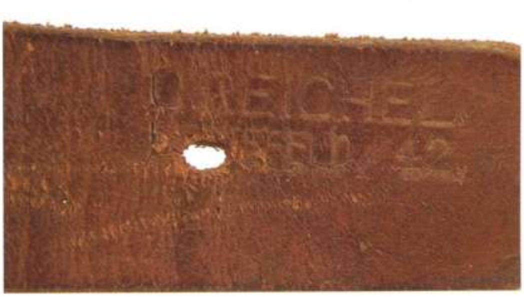
C. Otto Gehrckens,
Pinneberg, 1941



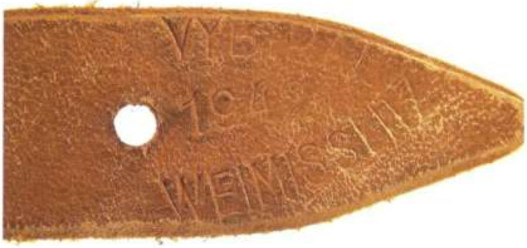
Josto, Prag, 1942



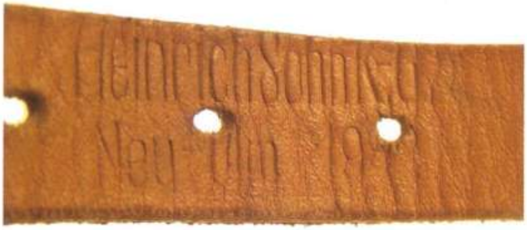
G. Schiele, Loburg, 1942



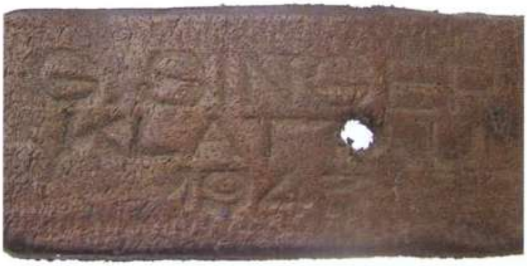
O. Reichel, Bielefeld, 1942. This maker mark is often seen on *Luftwaffe* helmet chinstraps manufactured after 1940.



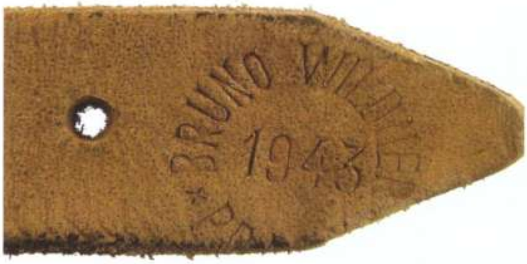
An unknown maker in Weimisslitz, occupied Czechoslovakia, 1942



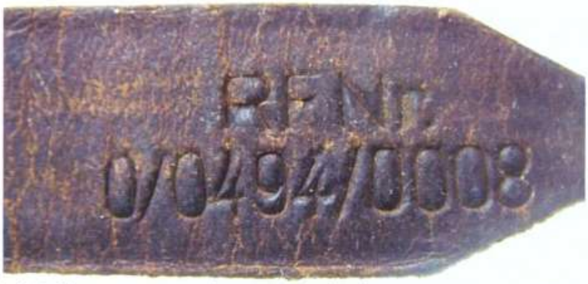
Heinrich & Sohn K-G, Neu-Ulm, 1942



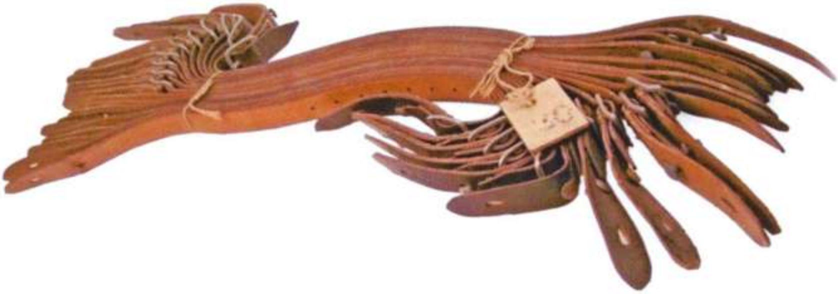
G. Singer, Klattau, Klatovy, occupied Czechoslovakia 1943



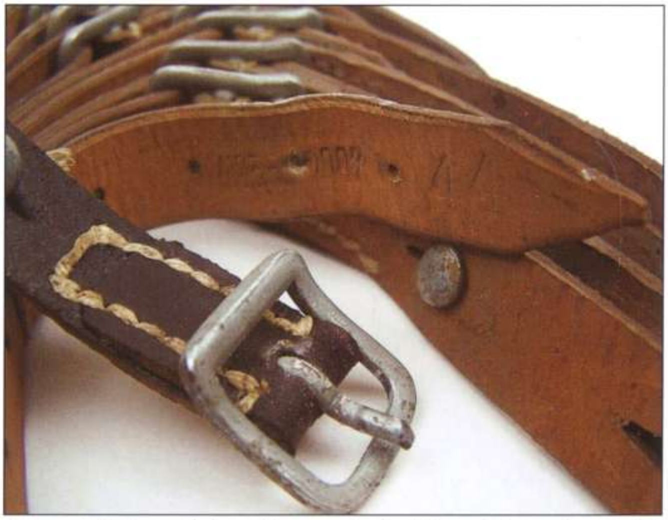
Bruno Wildmer, Prag, occupied Czechoslovakia, 1943



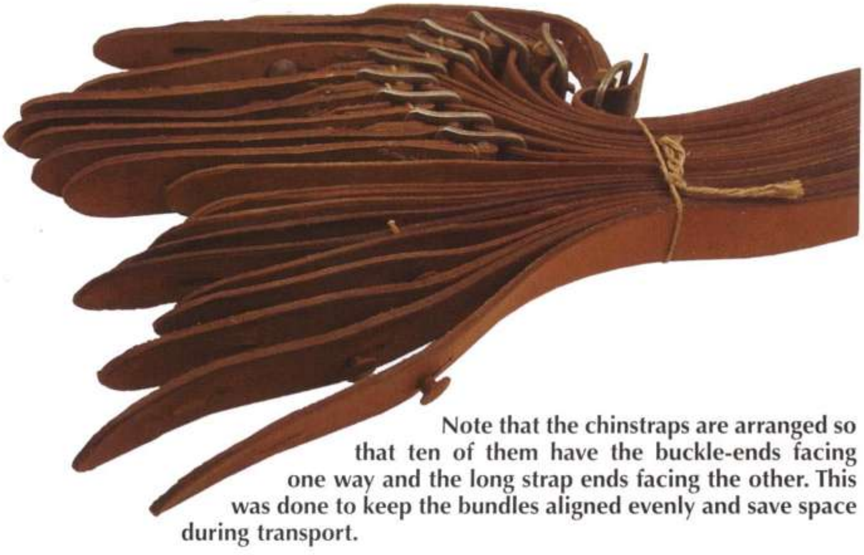
RFNr - *Reichsfabriknummer* (?) The RF numbering system appears to be separate from the more commonly encountered RB number system. It is believed that the RF indicates *"Reichs Fabrik"* or literally a government owned factory such as the enterprises which comprised the SS industrial empire created by Heinrich Himmler in the later war years.



An original bundle of 20 unissued chinstraps as they appeared when leaving the factory.



Each chinstrap in this bundle is maker marked with an RB number and dated '44.



Note that the chinstraps are arranged so that ten of them have the buckle-ends facing one way and the long strap ends facing the other. This was done to keep the bundles aligned evenly and save space during transport.

Appendix

4.

Shell Acceptance Stamps

The majority of Third Reich helmets bear evidence of having been accepted by inspectors of the main procurement office responsible for military contracts. These inspectors were authorized to accept steel helmets through various procurement offices. It is not known exactly where these offices were located, either at the actual factories or in separate locations. In the absence of documented evidence, little can be certain regarding which offices were responsible for inspecting the products of which factories. The acceptance stamp is universally found on the inside dome of the helmet positioned roughly in the center. It is not known at what stage the acceptance stamp was applied or the inspection itself was conducted. Clearly, the acceptance stamp was applied after the painting of the shell but whether it was applied before or after the installation of the liner system remains a question that can not be answered. Neither is it known whether the dome stamp was applied before or after the application of service branch insignia. Minor correlations can be observed through the observation of the various acceptance stamps found but none can be considered conclusive in the attempt to better understand the subject. These correlations have to do with acceptance office versus shell manufacturer.

Between 1935 and 1939 acceptance stamps bear the following information:

"*Abgennomen* (Roman Numeral I-V and date) *Beschaffungsamt für Heer u. Marine*"

In English:

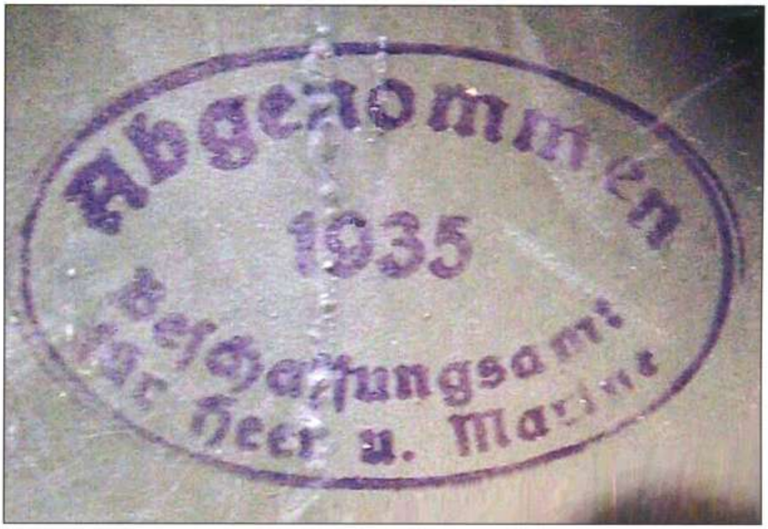
"Accepted, (Roman numeral I-V and date) Procurement Office for Army and Navy"

While M35 helmets shells manufactured by ET, Q and NS are almost always found to bear an acceptance stamp, there exist many cases in which EF and SE produced shells remain without one.

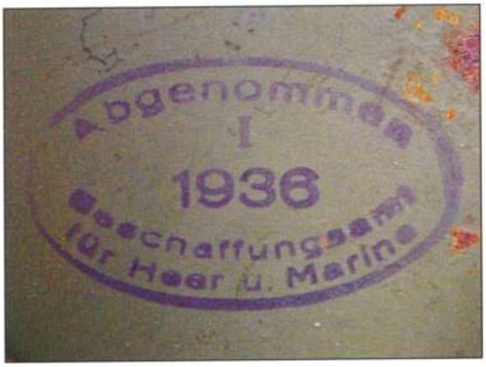
Manufacturer, location	(code)	Acceptance office
Eisenhutten AG Thale	(ET)	Beschaffungsamt I, IV and V
F.W. Quist G.m.b.H. Esslingen	(Q)	Beschaffungsamt II and IV
Sachsische Emaillerwerke Lauter	(SE)	Various
Vereinigte Deutsche Nickelwerke Schwerte	(NS)	Beschaffungsamt IV
Emaillerwerke AG Fulda	(EF)	Beschaffungsamt IV and V

After 1939, the date (and in most cases a Roman numeral) was dropped from usage with acceptance stamps. No original acceptance stamps bearing a date of 1940 onwards are known to exist. In many cases wartime acceptance stamps include the geographical location of the procurement office and at least in one case, the Roman number VI is attached to the procurement office for the NS manufacturer.

The application of acceptance stamps became less regular as the war years progressed. While ET/Ckl and NS helmets continued to bear the acceptance stamp more consistently, helmet shells of other manufacturers appear more frequently to be lacking one.

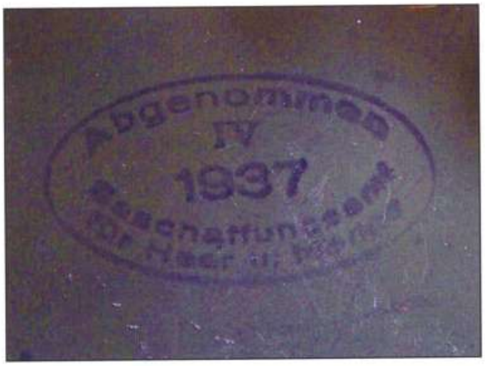


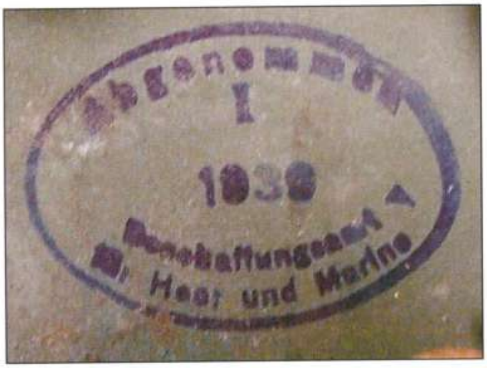
One of the earliest acceptance stamps. This oval shaped marking appears inside the dome of a 1935 dated ET64 *Heer* helmet. Note there is no Roman numeral found above the date as is seen in later stamps. The font of the lettering is also considerably different from those encountered on helmets produced from 1936 onward.



This stamp was applied to an SE produced M35 *Heer* helmet at Procurement Office I in 1936.

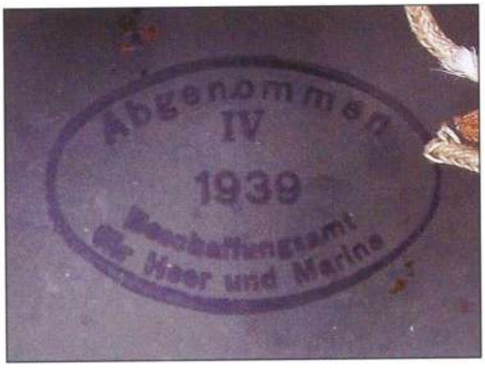
A 1937 dated example found inside a Q M35 *Heer* helmet.

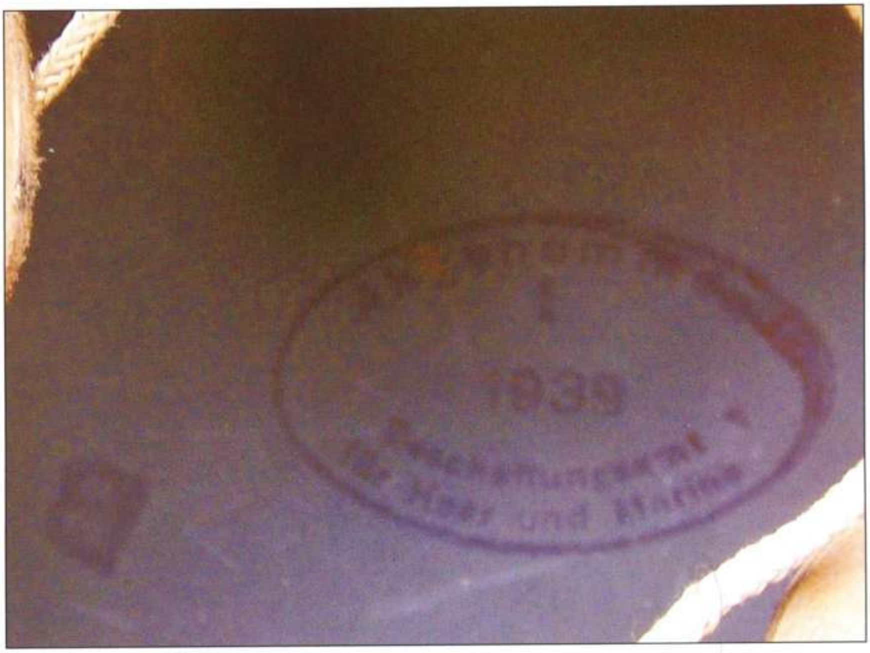




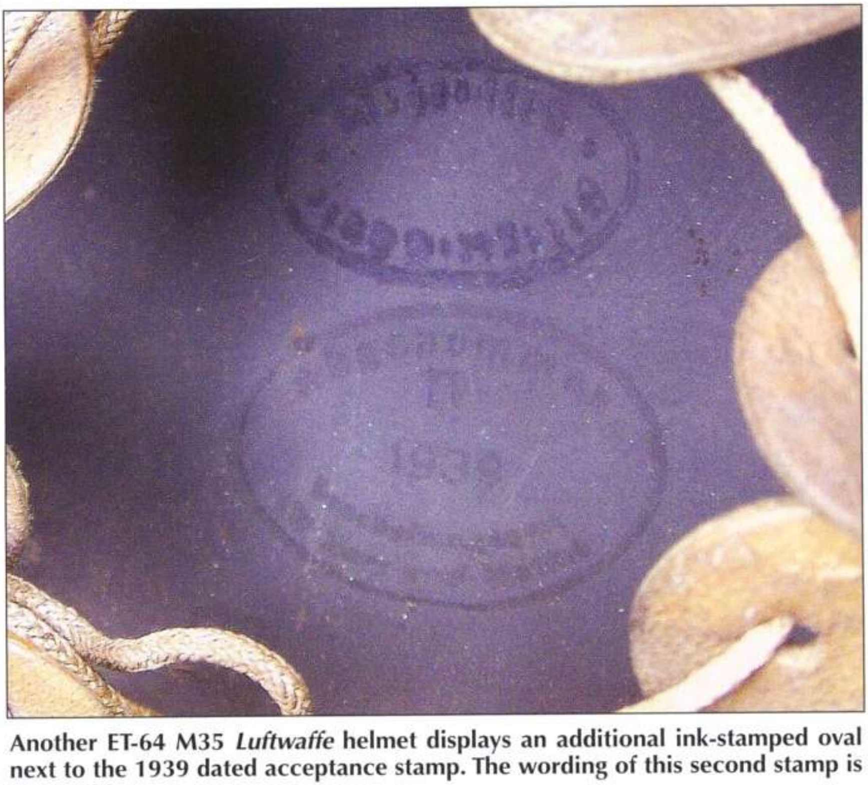
The acceptance stamp located inside an ET produced *Waffen-SS* M35. Such stamps applied by Procurement Office I are often of smaller overall dimension than other stamps.

An ink-stamp applied by Procurement Office IV. It seems that this office was the most prolific as its acceptance stamps are encountered in helmet shells of all makers.

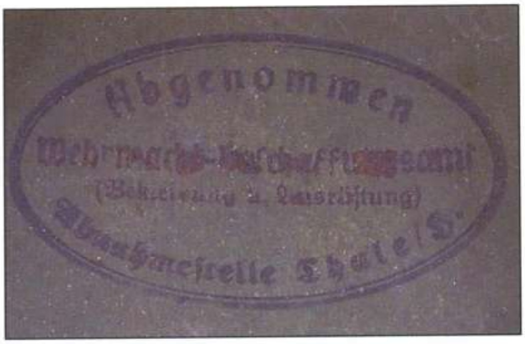




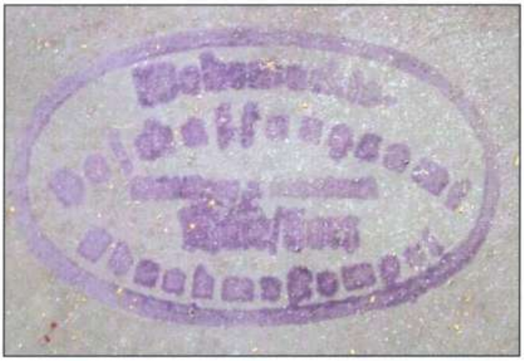
This ET-64 M35 *Luftwaffe* helmet has a large letter "B" applied near the acceptance stamp. The reason for this additional ink-stamp is unknown.



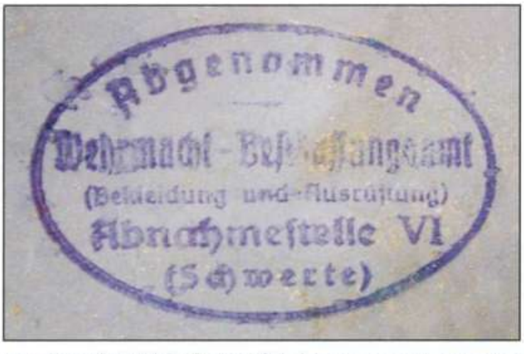
Another ET-64 M35 *Luftwaffe* helmet displays an additional ink-stamped oval next to the 1939 dated acceptance stamp. The wording of this second stamp is not legible.



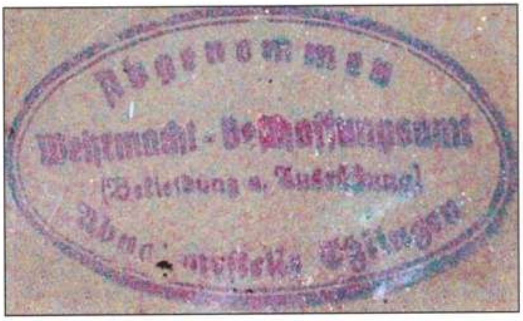
This is a clear example of one of the earliest acceptance stamps to appear after the elimination of the date and office number. It reads: *"Abgenommen, Wehrmacht Beschaffungsamt, (Bekleidung u. Ausrustung), Abnahmestelle Thale/H."* It is found inside the dome of a late production ET M35 double decal *Heer* helmet.



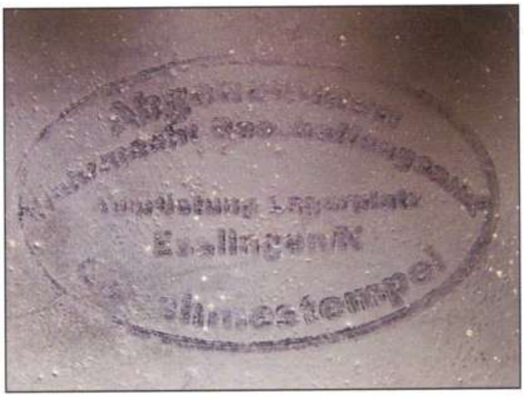
This acceptance stamp is a post 1940 example which has the date eliminated and the wording altered. It reads: *"Wehrmacht Beschaffungsamt, Bekleidung u. Ausrustung, Thale/harz, Abnahmestempel."* Found on an M40 ET helmet, this stamp is among the first to include the city name which is the location of the helmet producing plant.



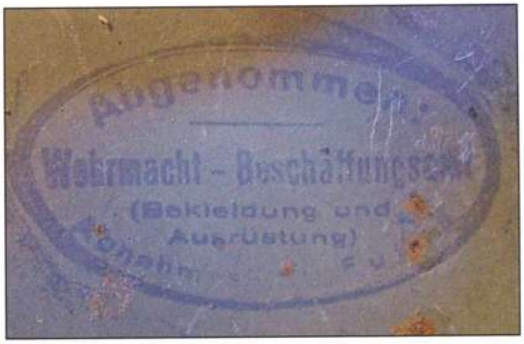
Found on an NS produced M42 helmet, this is an acceptance stamp from Control Office VI in the city of Schwerte, home of the NS factory. Until 1939, there were only five acceptance offices identified by Roman numeral. It is possible that other offices were opened which were more in proximity to (or indeed an integral part of) the helmet factories.



This acceptance stamp is located on the inside dome of an early production Q M40 helmet. The vast majority of later Quist helmets bear no acceptance stamp. The bottom line reads *"Abnahmestelle Esslingen."* The city of Esslingen is where the F.W.Quist plant is located.

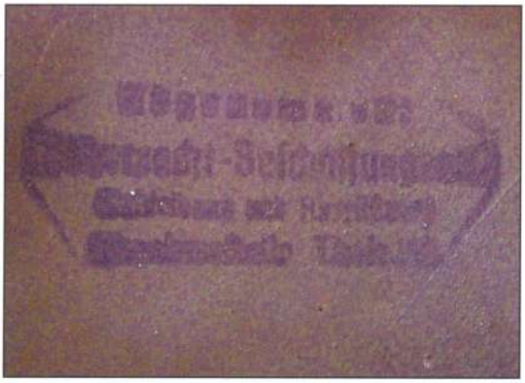


Another acceptance stamp from F.W. Quist; this stamp further illustrates the different wording of stamps encountered on post-1940 helmets. The center portion reads *"Ausrustungs Lagerplatz, Esslingen/N, Abnahmestempel"* (Equipment Collection Park, Esslingen am Neckar, Control Stamp)

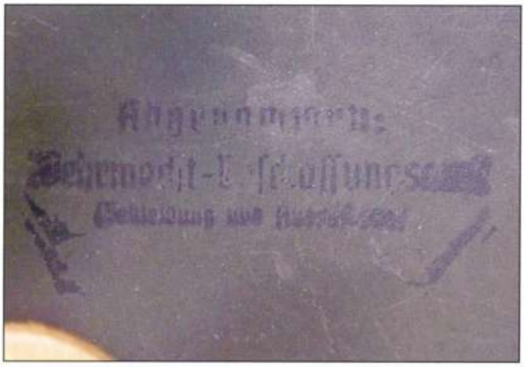


EF acceptance mark. This stamp of the *Wehrmacht Beschaffungsamt* has been applied by the *Abnahmenstelle* at Fulda, which is the location of the EF factory.

This acceptance stamp is found in a Ckl marked M42 *Heer* helmet. The smudging makes it barely discernible. One can make out the words *"Abgenommen Wehrmacht Beschaffungsamt, Bekleidungs und Ausrüstungs, Abnahmestelle V* (or possibly IV)."



Late in the war, the oval shape of the acceptance stamp was abandoned. This example is found on an ET manufactured *Heer* M42 and reads: *"Abgennomen, Wehrmacht – Beschaffungsamt, Bekleidungs und Ausrüstungs, Abnahmestelle Thale"* (accepted, *Wehrmacht* Procurement Office for Clothing and Equipment, Control Office, [city of] Thale)



The wording of this stamp reads: *"Abgennomen, Wehrmacht – Beschaffungsamt, Bekleidungs und Ausrustung."* It is found inside the dome of a late Ckl marked *Heer* M42.

Appendix

5.

Lot Numbers

Steel lot numbers are found on every German steel helmet produced between 1935 and 1945. Each of the five manufacturers utilized the steel lot number as a means of quality control. The number indicated to factory inspectors the smelting batch from which the steel was drawn. It is unclear at what point the lot number was struck into the steel; either before the planchet was struck or after the helmet had already been formed. It is also unclear how many helmets shells were produced from any given batch but Baer indicates that the number is at least one hundred. Certainly there have been helmets observed in modern times that bear the same manufacture, size and lot numbers indicating that the original number of helmet shells bearing the same lot identification must have been substantial.

It can never be known for sure whether the numbers ran consecutively or if certain numbers or sequences of numbers were unused.

Lot Numbers utilized by Eisenhutten-Thale (ET)

The ET factory is unique among the helmet shell manufacturers in that the steel lot numbers stamped into the shells run in constant sequence from the beginning of production until the end. It can never be known for sure whether the numbers ran completely consecutively in sequence or if certain numbers or sequences of numbers were unused. There are two series of lot numbers as described below. It is important to note that this list has been compiled through observation of original examples and does not come from documentation. Thus, while it is as accurate as possible, it cannot be taken as completely definitive.

Earliest observed lot numbers observed are in the mid 2,000 range.

1935: Mid 2,000 range
1936: 2,800 - 3,000
1937: 3,000 - 3,600

1938: 3,600 - 4,200
1939: 4,200 - 4,400
1940: 4,400 - 5,200 (at some point, probably in late 1940, the lot numbers start over)
1941: 100 - 1,200
1942: 1,200 - 2,500
1943: 2,500 - approx 4,000
1944: 4,000 - ?

It is difficult to come close to an accurate guess as to lot numbers used in 1945. Ckl helmets are commonly observed with lot numbers in the high 5,000 range. Some 6,000 range numbers have also been observed. The highest number seen by this writer is 7,705. It can be safely assumed that a helmet with a lot number in the 7,000 range was most likely produced in 1945.

The earliest ET M40s seem to appear somewhere around the 4,700 range. The lot numbers continued in sequence until approximately 5200 then they started over. Model 40 helmets of 1940 vintage have been observed with two-digit lot numbers strongly indicating that this is the year that the number sequence began over again. This second set of sequential numbers continued until the end of production. The highest numbers observed in M40 helmets of this second sequence appear to be in the 1,500s. It was at this time that the Model 1942 helmet appeared. Later changes to the Model 42 helmet cannot be closely linked by position in the lot number sequence due to certain over-laps. It is believed that the manufacture code changed from ET to Ckl sometime in 1943; yet there are Ckl marked helmets that bear lot numbers which are lesser than some ET marked examples. This anomaly also exists in the change-over from side marked maker codes to rear marked. The practice of factory decal application appears to have stopped around the 3,200-3,300 range but there are many observed exceptions to this.

Although the ET/Ckl lot numbers appear to be the most consistent, there are exceptions found for which there is no ready explanation, such as M35s with three digit lot numbers or helmets which have a single digit stamped above the lot number on a separate line.

Lot Numbers utilized by Sachsische Emailler (SE)

The lot numbers of SE helmets appear to begin around the 2,500 range and progress to approximately 5,000 before the switch to M40 production. (The progression of the numbers runs in much the same time-line as do those used by ET.) The highest numbers normally seen in SE M40 helmets are around the 12,000 range. It appears that around the time that the Sachsische Emailler firm switched to M42 production, the lot numbers began again in the 1,000 range. These numbers climb into the 5,000 range. There are several major breaks in sequence of SE/Hkp manufactured helmets and there are many instances of five digit numbers occurring in all three models. The change in maker mark from SE to Hkp appears to have taken place late in M40 production. Hkp maker marks are found stamped in both the side and rear positions. Factory decal application appears to have stopped somewhere in the second sequential set of lot numbers between 3,000 and 4,000.

Lot Numbers utilized by F.W. Quist (Q)

The earliest Q manufactured helmets are found dated 1936 with lot numbers less than 1,000. There are many 1937-1938 dated examples found with lot numbers ranging from 2,000 to 4,000 (similarly as those found with ET and SE). Some later M35s are found with numbers in the 20,000 range. If it is assumed that Quist production did not far out-strip the production of other factories, then it must be assumed that large gaps occurred in utilized lot numbers. After the adoption of the M40 helmet, the lot numbers utilized by Quist become more complicated. Latin letter prefixes (DN, R, S and T) are found to have been added. The change in position of maker mark (from side to rear) took place at some point when DN prefix lot numbers were used. Unlike the other manufacturers, Quist continued to produce the Model 40 helmet until very late in the war. Very few Model 42s were produced. The few that have been observed by this writer had DN prefix lot numbers indicating that this was probably the highest range of lot numbers utilized by Quist.

Lot Numbers utilized by Vereinigte Deutsche Nickelwerke (NS)

In the case of NS lot numbers, only fragmentary correlation can be observed between stampings seen on early and late M35 production. Most numbers appear to be three digit with Latin letter prefixes E, D and DN. Most M40 NS helmets are also seen with these prefixes. Model 42 helmets are seen with D prefixed three digit numbers or non pre-fixed four digit numbers.

Lot Numbers utilized by Emaillierwerke-Fulda (EF)

EF lot numbers appear to be the most fragmentary. The earliest M35s appear with 1937 dated liners and have lot numbers in the low 3,000s (although several with three digit numbers have been noted). The numbers progress upwards until about 5,000 and then apparently skip to 20,000 by 1940. Model 40 EFs are seen with lot numbers in the low 20,000 range but a significant number appear to have four digit numbers indicating that as in the case of other makers, the lot numbering started in a second sequence. EF Model 42 helmets have markings which are stamped very crudely and significant amounts of lot numbers are not readable. But many four digit numbers can be seen ranging between 1,000 and 5,000.

It is not known whether each manufacturer obtained the steel planchets from an exclusive source. Although in the case of those used by the ET factory it may indeed be that all came from the same source by reason of the fact that ET lot numbers run in constant sequence. It is also possible that several of the factories obtained steel planchets from the same source at the same time. This theory arises from the observation that during 1937-1939, lot numbers appearing on ET, SE and Q helmets seem to run concurrently in the 3,000 and 4,000 ranges. Unfortunately there is a complete lack of documentation to support this theory and total reliance is made upon observation of empirical evidence.

It should be noted that the above data is incomplete. Although accurate as presented, it is not to be considered completely definitive as many examples of lot numbers exist that are outside the parameters of those discussed above.

Lot Numbers utilized by the unknown maker; qvl,bvl

As has been stated earlier, virtually nothing is known for certain regarding this manufacturer; including whether or not the "qvl" or "bvl" maker code is not one which was assigned to either of the known manufacturers. With few exceptions, lot numbers tend to run in the 5,000 range. Only a few different numbers have been noted. Most common among them is the number 5,699.

Appendix

6.

Shell Characteristics

Precise sizes and weights

From the beginning of helmet production until the end, the precise size of the shells is the single characteristic that remained the most consistent. That is to say, only the most minute differences can be found when taking a sampling of measurements "across the board" from all helmet models that were produced in any of the specific shell sizes. The exact interior circumference will be the same on a size 64 M35 shell which was produced in 1935, as will be the latest Model 42, irrespective of manufacturer. This is a point of necessity considering the need for proper fitting of the Model 31 liners. It should be noted, however, that this consistency is not always found in the case of M16 and M18 helmets which had been retro-fitted with the M31 liner. A good number of these WWI vintage helmets are found to be somewhat smaller in interior circumference causing a tight fit when being refinished with the Model 31 liner. Original examples are often encountered where there is evidence of the liner frame being crimped or slightly shortened in order to be installed.

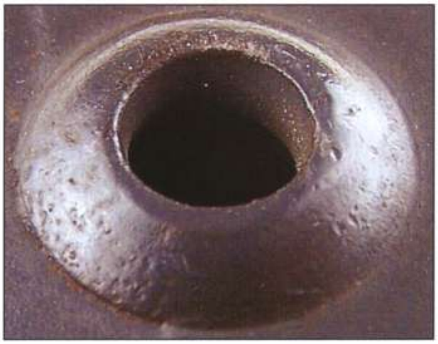
The exterior of helmet shells may vary slightly depending upon the gauge of the metal. Precise shell weights may also vary depending upon the gauge of the metal and its material composition. As noted elsewhere in this book, the Quist manufacturer is known for the widest variances in shell weight. These variances, often amounting to more than 20 grams, can be noticed when examining a helmet in hand without the aid of a scale.

Shell Shapes

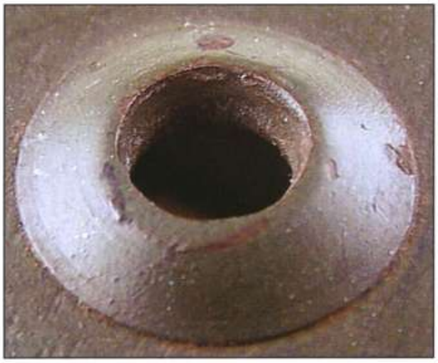
The various shell shapes common to each manufacturer are difficult to describe in written word and not much easier in photographs. They are subtle at best but the ones that contrast the most are easily distinguishable to the practiced eye. As has been noted earlier, the NS produced M35 is most clearly distinguishable from other M35s by the less angular skirt which often gives the helmet a "taller" appearance. The M42 EF helmet has a particular "boxy" shape to the crown especially in the smaller sizes. EFs in General have a more pronounced flare at the front "corner" of the outer skirt; a flare which appears to move the edge farther from the base of the crown. SE and ET helmets have a shape almost identical to one another and may well best be referred to as the norm in judging shell shapes.

Air-vent Bushings

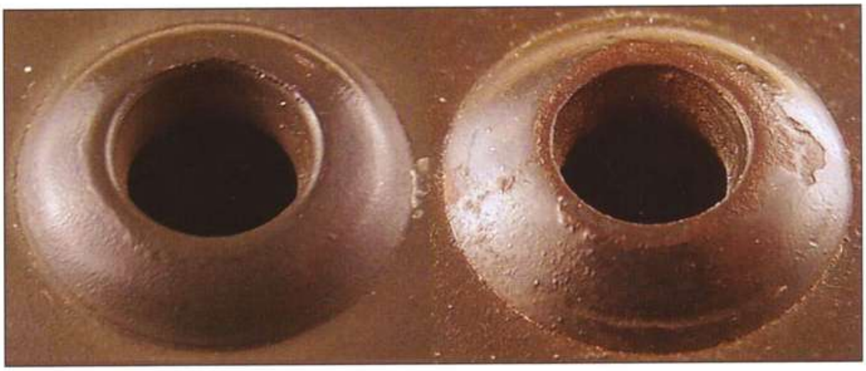
In distinguishing the M35 shell manufacture by shape and characteristics rather than the maker markings, one of the more easily seen clues are the sizes and shapes of the air-vent bushing inserts. During the production of the helmet and before the application of paint, a domed grommet was inserted into the air-vent hole to protect the raw edge from damage. This bushing had a short "stem" which was inserted into the air-vent hole and expanded by a press in order to keep it in place. The shape and hole-size of these bushings differed slightly among the manufacturers.



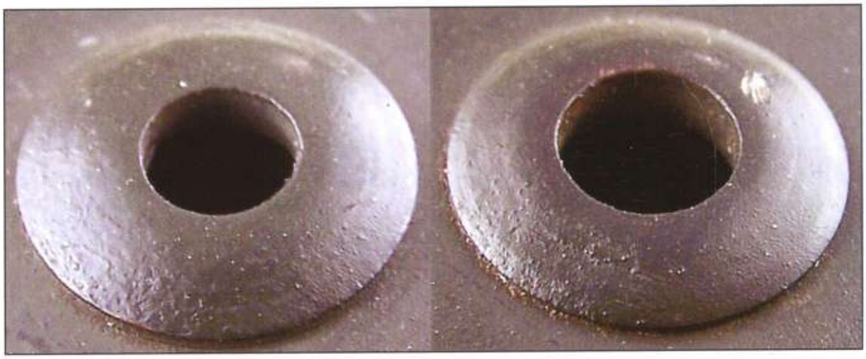
The bushings found on ET manufactured helmets tend to show the most consistency as far as shape of the dome and the size of the vent-hole.



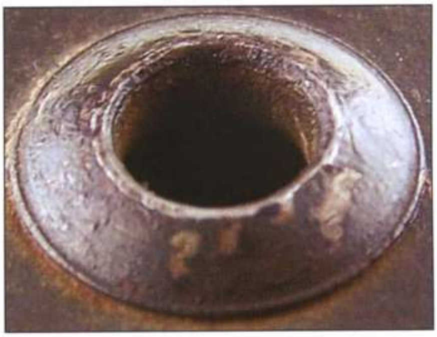
The SE bushing resembles the ET style and as with ET, the size and shape remains fairly consistant.



As shown in the above photo, bushings applied by the Quist maker vary slightly as far as the shape of the dome.

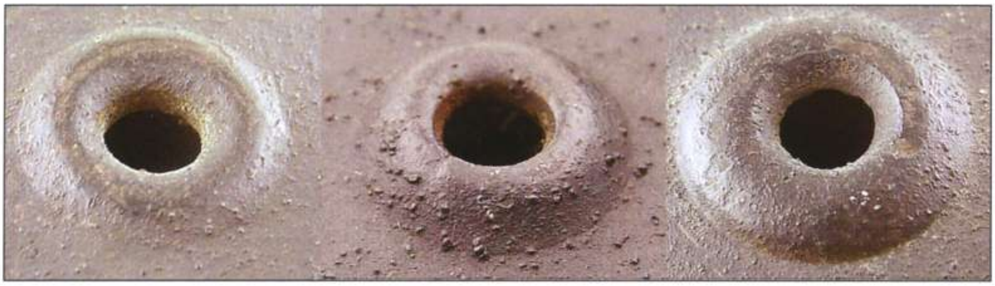


NS bushings as seen above tend to have a flatter profile and a noticeable variance in the size of the air-vent hole.



The EF air-vent bushing typically is more roughly machined than those found on helmets of other manufacturers.

In March of 1940 the Army High Command issued an order for the modification of the air-vent. The bushing insert was done away with and new dies were created in order to stamp a ridge around the air-vent hole. The ridged vent hole continued as an integral part of the German combat helmet until the end of production.



The stamped ridge air-vents of later models show less consistency than the M35s but certain traits are still easily picked out. Here from right to left: an ET, an NS/HKP and a Q. Note the higher profile of the NS/HKP and the larger diameter of the Q.

Quality Control

The overall quality of the shell (speaking about characteristics which can be seen and not referring to the material composition or ballistic effectiveness) remained at a high and consistent level in the pre-war years. This, of course, can be directly attributed to the level of quality control measures which where in place before the advent of war-time "emergency." When manufacture flaws are seen in Model 35 production helmets, they almost always appear as minor mis-alignment of the air-vent bushings (either vertically or horizontally) or various surface anomalies resulting in different textures or minor "wave" patterns on the metal surface. Before 1940, these instances remain fairly few. Helmets which were produced in the war years have a far higher occurrence of visible flaws. Severe mis-alignment in the placement of air-vents, incomplete air-vent stampings and in some cases the lack of air-vents on either one or both sides (see Appendix 1). In Model 42 helmets, particularly of ET manufacture, there is a high rate of "stretch marks" in the steel and often there are "dimples" found at the edges near the fronts of the skirt. By 1945, these stamping flaws seen in conjunction with the lack of quality regarding painted finishes present a picture quite different from the products which left the factories during the first few years of production.

Appendix

7.

The factories

Eisenhuttenwerke (ET)

The Eisenhuttenwerke firm in Thale existed as a metal works factory since before 1900 and is known to have been a major manufacturer of steel helmets beginning in 1916. Being the largest manufacturer, it received the largest contracts for helmets of all shell sizes. It is also the only manufacturer to produce the M18 "cut-out" helmet. Technicians employed by Eisenhutten were instrumental in the development of helmet models used in both world wars. ET received the first contracts for production of the M35 helmet and was the sole producer of special ordered helmet shells in sizes larger than 68cms. The maker code "ET" was changed in 1943 to "Ckl." The Eisenhuttenwerke continues in operation today, although drastically downsized. It produces no military goods.

Sachsische Emailler und Stanzwerke A.G. (SE)

The Sachsische Emailler und Stanzwerke A.G. was located in the city of Lauter, Saxony. It is listed as one of the factories that produced the Model 18 helmet during WWI and was the second manufacturer to receive contracts to produce the M35 helmet. It remained a main supplier until the end of production. The production code was changed to "hkp" in 1943. The Sachsische Emailler plant is no longer in existence.

F.W. Quist (Q)

Situated in Esslingen am Neckar, just north of Stuttgart, the firm of F.W. Quist has existed since before the 20th century and was known for the production of metal products and fine tableware. Quist produced steel helmets for the Imperial German Army from 1916-1918. Q marked M35 helmets are known to have been produced as early as 1936. The Quist plant is unique among the helmet makers in that it did not fully change to the production of the Model 42 helmet shell. Very few Q marked M42 helmets are seen. Quist is the lone producer among the five makers which was awarded contracts after WWII to produce the M53 (also referred to as the M57) helmet for the West German border guards. This helmet resembled the Model 40.

Vereinigte Deutsche Nickelwerke (NS)

Formerly known as "Westfälisches Nickelwalzwerk Fleitmann, Witte u. Co.," Schwerte, Ruhr, this factory is listed as being a producer of M16 helmets during WWI using the two letter maker code "N.J." The first M35 helmets of this manufacture are found dated 1936. Vereinigte Deutsche Nickelwerke also did plating work for the munitions industry. The letters NS continued to be used as the maker mark for this manufacturer until the end of production.

Emaillierwerke A.G., Fulda (EF)

The Emaillierwerke A.G. is believed to be the last firm awarded contracts for the M35 helmet and is further thought to have produced the least amount among the five manufacturers. In the case of the M42, EF marked helmets show the crudest workmanship and least clear markings.

Unknown (qvl, bvl)

Little or nothing is known about this maker. No positive identification has been made and it is not certain whether this code indicates a sixth manufacturer or is a code untilized by one of the known manufacturers (or its subsidiary). "qvl" appears as the maker code on late produced M42 helmet shells. Only a small amount of different steel lot numbers are observed on "qvl" marked helmets. Further, there exist variations of this marking where the first letter is apparently upside-down forming the maker mark "bvl."

Appendix

8.

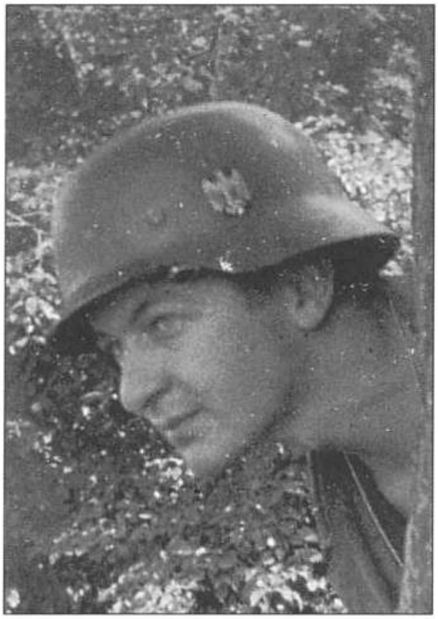
A Short History of Collecting German Helmets

German helmets began to be collectible almost as soon as the German soldiers who wore them threw them on the ground in surrender. Allied soldiers, particularly American GIs seemed to be fascinated by items of captured enemy equipment and the German helmet, being a fairly unique design quickly became a favorite souvenir taken by troops who felt the desire to return home with a remembrance of their wartime experiences.

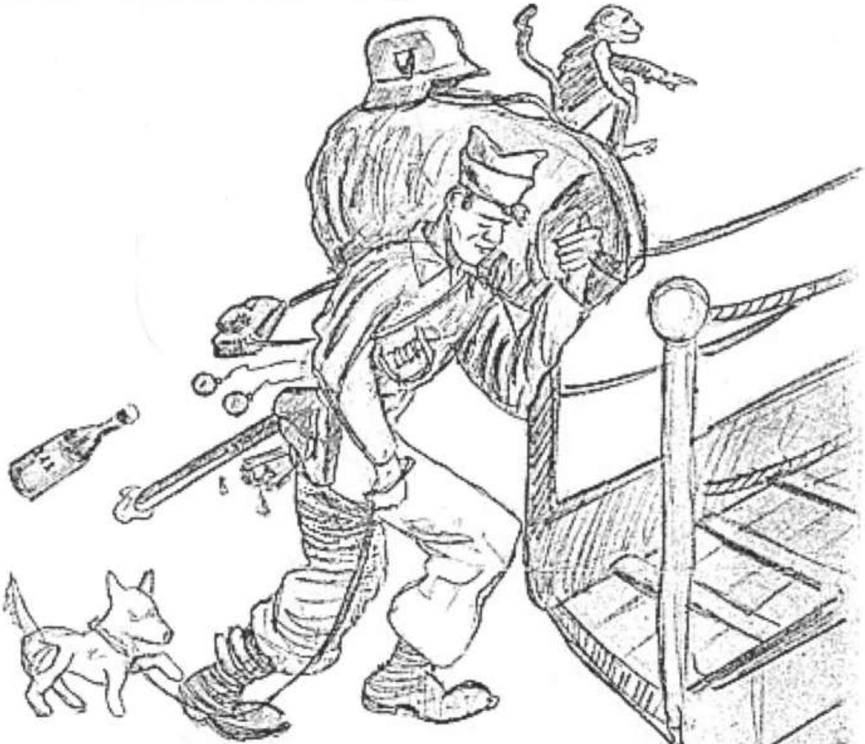
Due to the weight and bulkiness of the German helmet, it is unlikely that most combat infantrymen took advantage of their positions as being closest to the source of supply for these souvenirs. The author's own father, a member of a rifle company with the US 35th Infantry Division, which saw combat from Normandy to the Elbe River, remembered being on the move most of the time and was restricted to carrying only the necessities.

Although on occasion, a wounded front-line soldier might grab a helmet while on his way from the area of fighting, such prizes were generally left behind to be picked up by members of the rear echelon who had more opportunity for retaining them and seeing to their transport home.

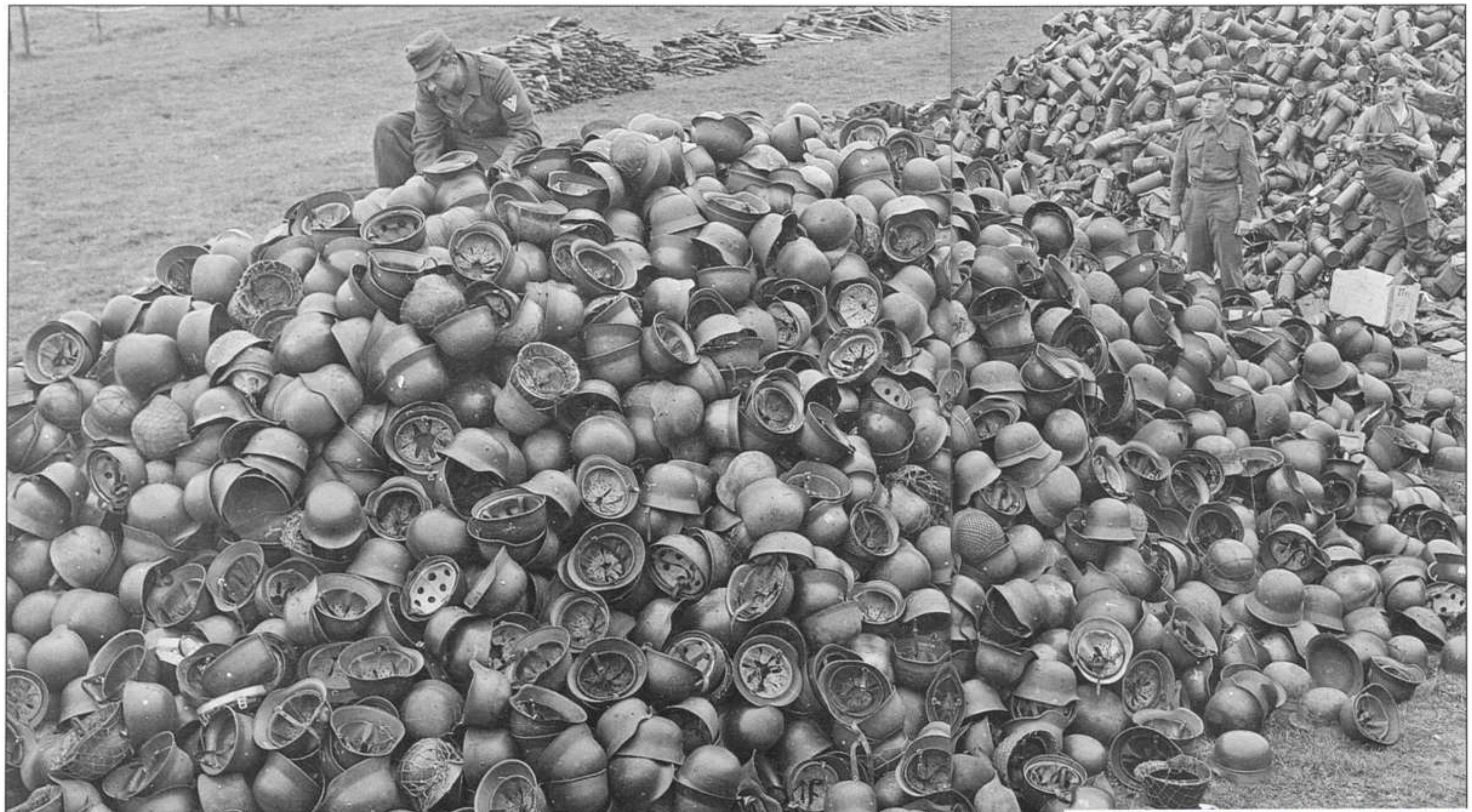
In his 1945 book *"Up Front,"* the cartoonist Bill Mauldin describes a German Luger pistol as being worth about a hundred dollars in the souvenir trade yet he goes on to say that "German helmets are flooding the market and aren't worth picking up anymore." Certainly by the end of hostilities, captured German helmets were encountered in abundance and were readily available to any allied soldier who felt inclined to take one home with him. Luckily for modern collectors, there were quite a few US servicemen who availed themselves of this opportunity. Although a fair number of German helmets survived the post-war decades in Europe by being stored in barns and occasionally in people's homes, the vast majority ended up being buried, crushed, recycled or otherwise disposed of. The helmets which returned home with servicemen were in most cases preserved by proper storage as war trophies until such time as they came to be regarded as highly collectible.



An American GI is photographed wearing an M40 single decal *Heer* helmet as he "lurks" from behind a tree. The original photograph is captioned on the back, "Bill wearing a Kraut helmet."

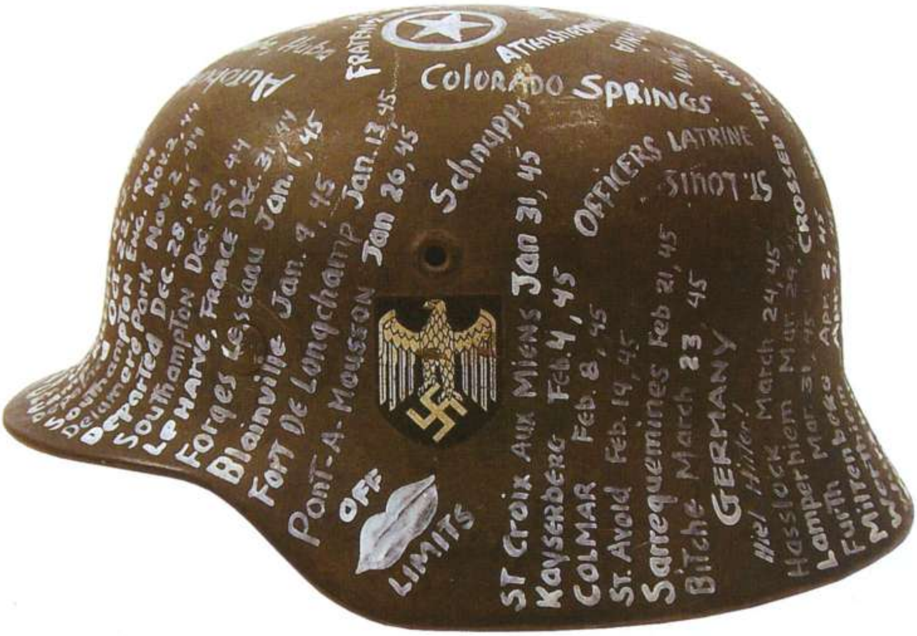


This is a period cartoon drawn by Pvt. Phillip Fredericks, a rifleman with the US 30th Infantry Division. It is meant as a caricature of himself as he is boarding the ship to return home. A German helmet is prominent among his selection of war souvenirs. (Courtesy B.Dixon)



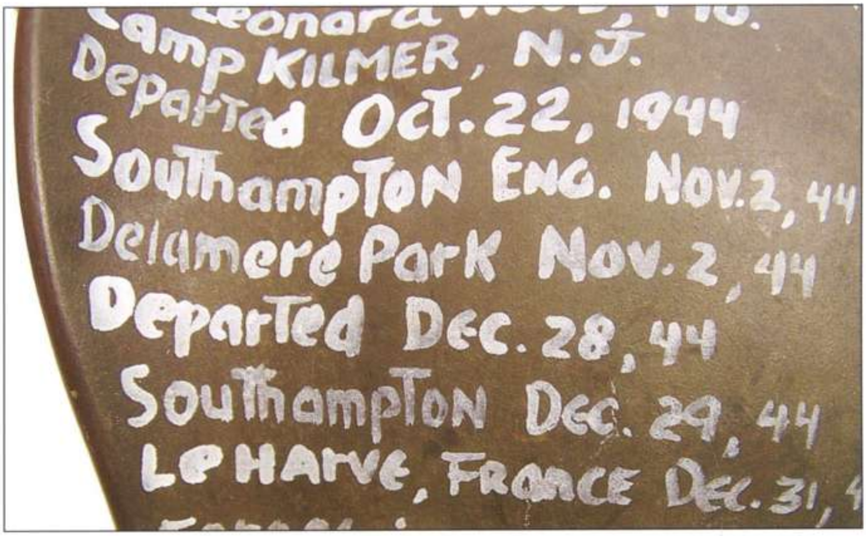
A Canadian Army photo taken in May of 1945 near Hilversum, Netherlands. Local *Heer* and *Luftwaffe* units had deposited their equipment in piles after surrender. This material was later bull-dozed into a hole and simply covered up.

The photos below are close-up details of the Canadian Army photo giving a hint as to the treasures disposed of during their subsequent burial.

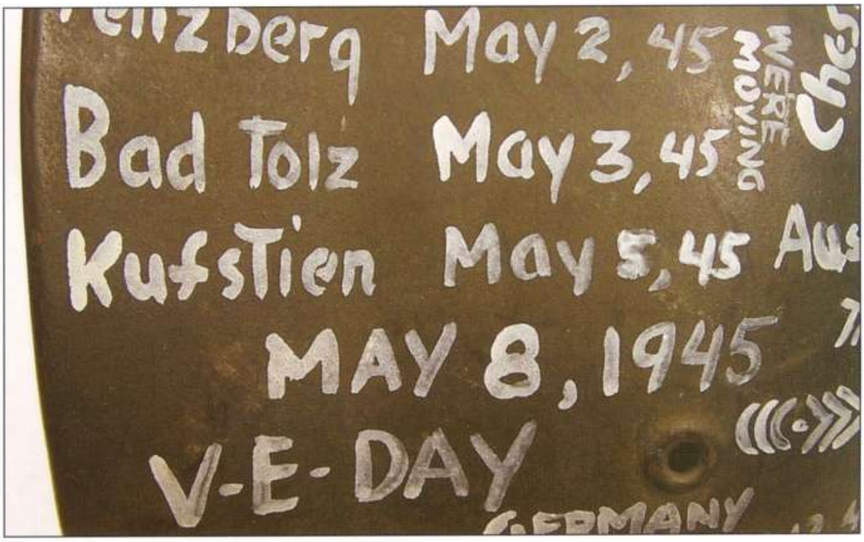


This Model 40 single decal Army helmet was the souvenir of a U.S. soldier who kept a record of the places he went during the time of his training in the US and his service overseas until the end of the war. When the war was over, he used this helmet as a virtual logbook noting places and dates. (Courtesy K. Kithier)

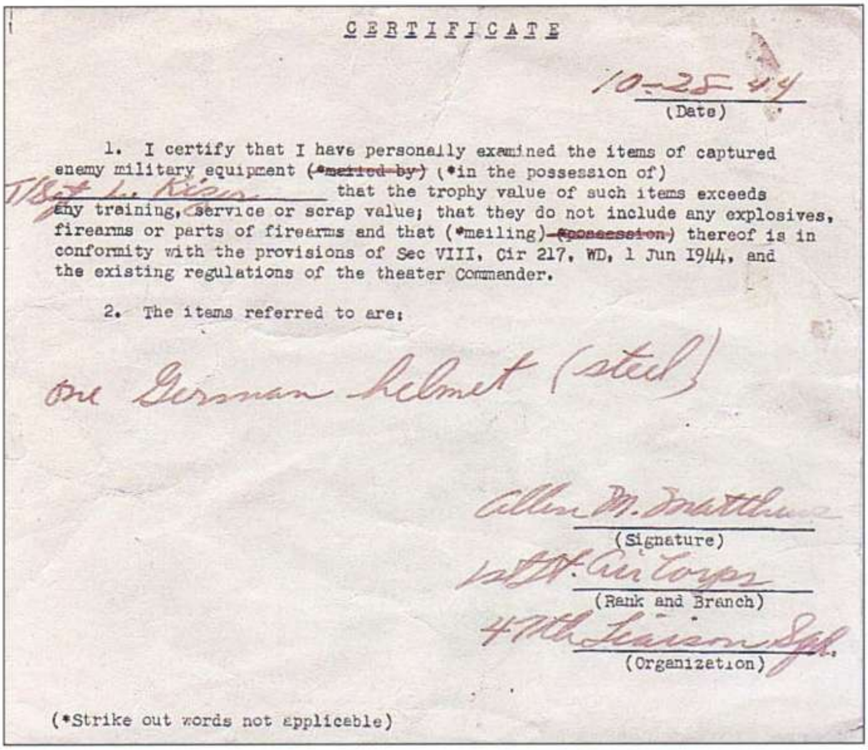
The *Heer* eagle decal was spared as the soldier wrote his entries and graffiti on every inch of the helmet's exterior.



A detail of the helmet shows the soldier's listing in chronological order; his embarkation for Great Britain and his entry onto the continent at la Havre, France.



The soldier's location on V-E day is recorded as the climax of this wartime "diary." It is curious to note that for all the effort spent in writing this record with a paintbrush on the helmet, the soldier never once wrote his name or unit. (Courtesy K. Kithier)



CERTIFICATE

10-25-44
(Date)

1. I certify that I have personally examined the items of captured enemy military equipment ~~(*mailed by)~~ (*in the possession of) T/Sgt L. Kizer that the trophy value of such items exceeds any training, service or scrap value; that they do not include any explosives, firearms or parts of firearms and that (*mailing) ~~(*possession)~~ thereof is in conformity with the provisions of Sec VIII, Cir 217, WD, 1 Jun 1944, and the existing regulations of the theater Commander.

2. The items referred to are:

One German helmet (steel)

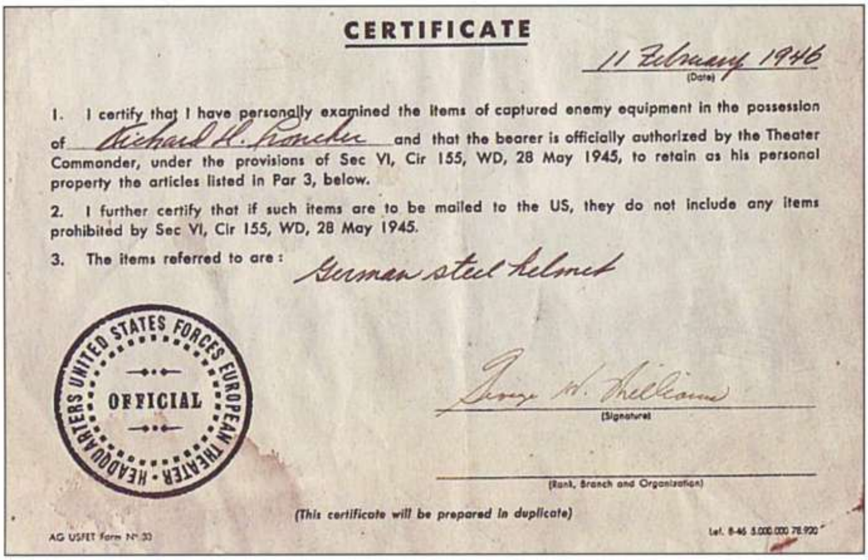
Allen M. Matthews
(Signature)

1st Lt. Air Corps
(Rank and Branch)

47th Liaison Sqd.
(Organization)

(*Strike out words not applicable)

(Figure A-8-9)
Certificates such as this were given to U.S. Servicemen to show that their war-booty was inspected and permission was granted to either retain or mail items described. In this case, the certificate is a hand-typed version which was presumably copied locally for use by the unit concerned. Technical Sergeant L. Kizer of the 47th Liaison Squadron, USAAF, was given permission on October 28, 1944 to mail home "one German helmet (steel)."



CERTIFICATE

11 February 1946
(Date)

1. I certify that I have personally examined the items of captured enemy equipment in the possession of Richard H. Froncker and that the bearer is officially authorized by the Theater Commander, under the provisions of Sec VI, Cir 155, WD, 28 May 1945, to retain as his personal property the articles listed in Par 3, below.

2. I further certify that if such items are to be mailed to the US, they do not include any items prohibited by Sec VI, Cir 155, WD, 28 May 1945.

3. The items referred to are: German steel helmet

HEADQUARTERS UNITED STATES FORCES EUROPEAN THEATER
OFFICIAL

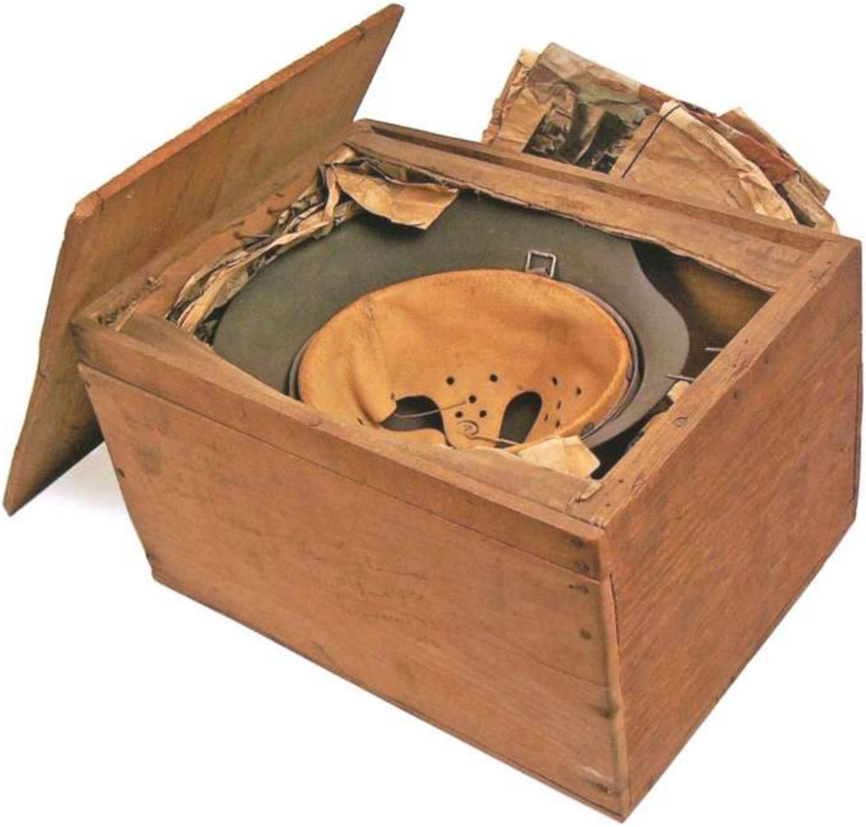
George W. Williams
(Signature)

(Rank, Branch and Organization)

(This certificate will be prepared in duplicate)

AG USFET Form Nº 33

Lel. 8-46 5.000.000 78.920



This wooden box has postage stamps on the lid which bear 1945 dated cancellation marks. The return address is a quartermaster unit in Europe. It contains one German helmet wrapped in 1945 dated magazine pages.

This certificate is dated February 11, 1946. It is basically the same as the above and cites regulations which allowed for the mailing or retention of captured enemy equipment. But in this case it is a printed form which was provided by "Headquarters United States forces European theater," the Supreme Headquarters of American Military Forces after the dissolution of SHEAF in July of 1945. The item referred to on this certificate is a "German steel helmet."

It can never be known how many German helmets were brought home with returning servicemen after 1945. U.S. soldiers returning from Europe were most noted for their hunger of war-booty and numbered around 4 million. Added to this were the numbers of British and Canadians who were able to smuggle home items such as helmets (in many Anglo-Canadian units, it was forbidden to retain items of captured enemy equipment). It is certain that a fair number of German helmets were preserved for future generations of collectors. Within a year of VE-day there were many pawn shop windows near military bases in the U.S. that had German helmets on display. Today, some older collectors can remember helmets being for sale in Army-Navy shops and in any number of rummage shops across the U.S. Usually the price was almost negligible. One collector who was a young teenager in the 1950s and already had begun a life-time collecting passion had amassed some 65 helmets stacked in the corners of his bedroom before selling his first collection in 1960. He remembers the prices that he paid for each one rarely exceeded two dollars and a good many of them were actually given to him as gifts by WWII veterans. Few in the fledgling collecting field gave any preference to whether a helmet had one or two decals or from which branch of service the helmet came. Helmets of all models and branches could habitually be found in stacks on tables at gun-collector shows.

With the social changes of the 1960s, the German helmet became an accepted ingredient in the new wave of rebellion against established values. Young men who played with their father's war souvenirs in the 1950s now sported these helmets as members of biker clubs and gangs. There came a popular notion that the uniquely shaped steel helmet was associated with the "bad guy," although this was tempered to a degree by the visions of silly and clumsy Germans wearing helmets on TV sitcoms and comedy/variety shows. Once simply a piece of enemy equipment used in a war a generation earlier, the German helmet now took a small but visible place in American popular culture.

By the late 1960s the collecting world was much larger and already several militaria collecting shows were organized regularly in locations across the country. German helmets began to be sorted by collectors into categories of rarity. While a single decal *Heer* helmet could be had for five dollars, SS helmets and double decal helmets were commanding prices between ten and fifty dollars.

Around the end of the 1970s the value, desirability and collector interest rose to such a point that the first helmet references were published by several advanced collectors. Rarer models of SS and paratrooper helmets had already risen into the hundreds of dollars. The 1980s brought on a wave of new collectors and adding to the fact that the WWII veterans were now aging and many who had held onto their war souvenirs were now parting with them for various prices, the collector market became very busy in active buying and selling.

By the turn of the 21st century, the advent of the internet and advanced communications between collectors and dealers caused a vast expansion in the interest and hence the values of these sought after collectibles. Trading at collector shows, through private contacts and on the internet continues to be active. Helmets are still, from time to time sourced directly from ageing veterans or their descendants, and will likely continue to appear out of obscurity and into the collector market for decades to come. High-end helmets are considered today not only objects of collector interest but also as parts of investment portfolios. The future is never certain but from what has occurred so far in the history of helmet collecting, the rarity and thus; the value of original German helmets can be predicted to rise.

Bibliography

Baer, Ludwig. *Deutsche Stahlhelm: Entwicklungsgeschichte in Bildern*. Journal-Verlag Schwend, 1975.

Baer, Ludwig. *Geschichte des deutschen Stahlhelmes: von 1915 bis 1945*. L. Baer, 1977.

Baer, Ludwig. *History of the German Steel Helmet*. R. James Bender, 1985.

Baer, Ludwig. *Vom Stahlhelm zum Gefechtshelm: eine Entwicklungsgeschichte vom 1915 bis 1993*. L. Baer, 1994.

Beaver, Michael D., and Hicks, Kelly. *SS Helmets - The History, Use and Decoration of the Helmets of the Black Corps*. Schiffer, 2006.

Goodapple, Terry V., and Ronald J. Weinand. *German Helmets 1933-1945*. Goodapple and Weinand, 1981.

Goodapple, Terry V., William R. Maertz, and Ronald J. Weinand. *German Helmets 1933-1945: Volume 2*. Goodapple, Maertz, and Weinand, 1983.

Hicks, Kelly. *SS Helmets: A Collectors Guide, Vols. 1 & 2*. Reddick Enterprises, 1993, 1996.

Hicks, Kelly. *SS-Steel*. R. James Bender, 2004.

Kibler, Thomas. *Combat Helmets of the Third Reich, Vol. 1*. Reddick Enterprises, 2003.

Kibler, Thomas, Iqbal, Robert. *Combat Helmets of the Third Reich, Vol.2*. Reddick Enterprises, 2005.

Kraus, Jürgen, ed. *Stahlhelme vom Ersten Weltkrieg bis zur Gegenwart*. Bayerisches Armeemuseum, 1984.

Marzetti, Paolo. *Elmetti 1915 - 1973*. Ermanno Albertelli, 1973.

Marzetti, Paolo. *Elmetti di tutto il mondo*. Ermanno Albertelli, 1984.

Marzetti, Paolo. *Elmetti da combattimento di tutto il mondo: Combat Helmets of the World*.[bilingual edition] Ermanno Albertelli, 1996.

Mesny, Francois. *Casque Allemand de 1915 a nos jours*. F. Mesny, 1975.

Personnel Armor; a DDC Bibliography. Defense Documentation Center, 1974; AD 787 300.

Moran, Pat. *German Headgear in World War II: a Photographic Study of German Hats and Helmets*. (2 vols). Schiffer Publishing, 1997.

Müller, Heinrich, and Fritz Kunther. *Europäische Helme*. Militärverlag, 1984.

Plasseraud, Yves, Pierre-Paul Struye and Jean Dagnas, eds. *Casques de combat: tome 1*. Charles-Lavauzelle, 1984.

Plasseraud, Yves, Pierre-Paul Struye and Jean Dagnas, eds. *Casques de combat: tome 2*. Editions PSD, 1991.

Radovic, Branislav. *German Helmets of the Second World War Vol. 1: M1916/18, M1932, M1935, M1940, M1942, M1942/45*. Schiffer, 2002.

Radovic, Branislav. *German Helmets of the Second World War Vol. 2: Paratroop, Covers, Liners, Makers, Insignia, etc.* Schiffer, 2002.

Thaler, Franz. *Stahlhelme: von 1915 bis zur Gegenwart*. Jörg Nimmergut, 1978.

Tubbs, Floyd R. *Stahlhelm*. Floyd Tubbs, 1971.

Tubbs, Floyd and Bob Clawson. *Stahlhelm*. [revised edition] Kent State University Press, 2000.

R. James Bender Publishing

ISBN: 1-932970-12-6

9 781932 970128